ESTABLISHED 1819.

THE AMERICAN FARMER AND RURAL REGISTER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

NEW SERIES.] FEBRUARY, 1873. [VOL. II—NO. 2.

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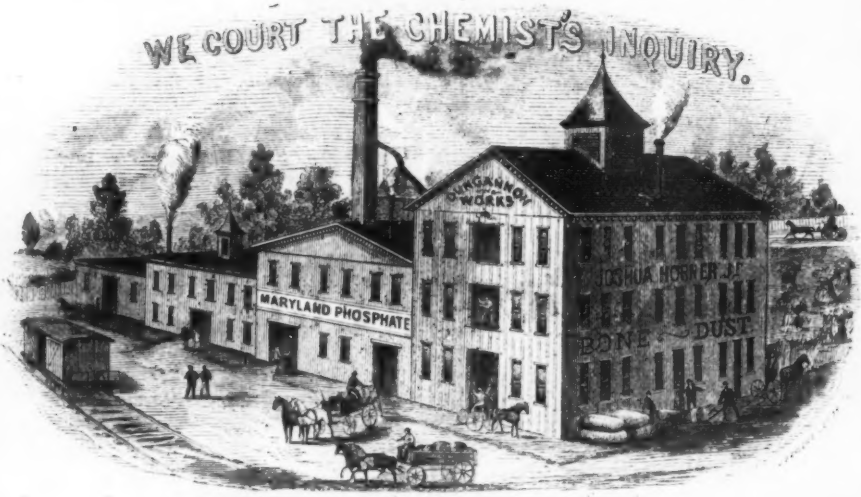

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VOL. II.—No. 2.] FEBRUARY, 1873. [NEW SERIES.

Pennsylvania Fruit Growers' Convention.

This assemblage of horticulturists comprises some of the best known and most successful fruit growers of the states of Pa., N. Y., Del. and N. J., and as we are always desirous of placing before the readers of *The American Farmer* the most advanced information on the important subjects which are annually discussed in this convention, we attended the meeting, which was held in Reading, Pa., on the 15th and 16th of January, and give below some notes which we made of the valuable papers read, and the interesting discussions had on the occasion.

Josiah Hoopes, Esq., the President of the association, makes a presiding officer such as is rarely found among practical men whose business is not supposed to qualify them to lead the proceedings of deliberative bodies, and his promptness of decision, courtesy of bearing and fullness of information on all points under discussion, contribute very largely to the interest and success of these meetings. Another prominent member is Thomas Meehan, Esq., editor of the Gardeners' Monthly, who, distinguished as well for the liberal scope and the accuracy of his scientific acquirements, as for his wide practical experience in every branch of horticulture, speaks with decision and ability upon all subjects, and in defence of his favorite theories proves himself as apt in verbal illustration and retort as he is ready with his pen.

We begin our account of the proceedings with the

President's Annual Address.

The annual address of the President was delivered on the first evening of the meeting. After congratulatory remarks upon the numerous attendance and the satisfaction with which the association met in the city of Reading, the vicinity of which is noted for its crops of fine fruits, and which is well known for the superior pears which bear its own name, he referred to the very remarkable character of the year but recently ended. In some respects 1872 was the most wonderful year ever known; a winter almost unequalled for its severity, was followed by the most bounteous crops of fruit. What was the lesson taught by this? There were no sudden changes in temperature, and it was no fair test of the hardiness of trees and plants. Tender plants survived and hardy ones alongside of them perished. Day after day and week after week we watched for rain, but no moisture came; trees and plants dried up from excessive evaporation, and in the deeply frozen ground which prevented the absorption of what few showers did fall, plants perished without regard to constitutional vigor. In this rare condition of things, it is unbecoming for any of us to form too strong convictions on any theory, for theory is but the combination of and deduction from facts. The watchword of true science is—Investigate for yourselves. The old masters in horticulture gave us, for instance, many theories in regard to blight in the pear, but it remained for a well known member of this society to pronounce that the destructive agent was a vegetable parasite at work extinguishing life not only in the limbs but in the body of the tree. The truth of this theory, cautiously propounded, has been confirmed by the experiments of microscopists. The speaker also referred to the *yellows* in the peach, which three years ago he believed was caused by a parasitic fungus. Every stage of the disease in wood and leaf, every symptom, indicated

this, and within the past year microscopic investigations have proved that he was correct. Fortunately this disease is almost one of the things of the past, and healthy orchards now grow where it formerly most prevailed. Mr. Hoopes then alluded to his European tour of last summer, and said that while our orchards were overloaded, the reverse was the case there, European pomologists being literally fruit-less, their crops a total failure. In this connection reference was made to the astonishing success of the orchard-houses of Thos. Rivers, of Sawbridgeworth, Eng., which combine more of the elements of success than any the speaker was acquainted with. Not only are the orange, the peach, the nectarine and apricot grown here under glass, but cherries, apples and pears; and seedlings are raised by scores, not the result of chance, but produced by a knowledge and application of the laws which govern the cross-breeding of plants.

Mr. Hoopes said the diseases of fruit trees are the results of causes which have their origin in carelessness or ignorance. Deep planting is one error. To plant a tree rather *shallower* than it formerly stood is the right way, whilst many plant a tree as they would a post. Roots are of two kinds—the young and tender rootlets, composed entirely of cells, and which are the feeders of the tree, always found near the surface getting air and moisture, their food always being taken in the form of vapor—and roots of over one year old, which serve only as supporters of the trees and as conductors of its food. Hence the injury which ensues when the delicate rootlets are so deeply buried in the earth. Raspberries were cited as a particular illustration of the advantage of shallow planting, and a trial was recommended of setting two rows, one deeply planted and the other with the roots just covered. Placing fresh or green manure in contact with the young roots is another great error. The place to put manure is on the surface, where the elements disintegrate, dissolve and carry it downwards. Numerous forms of fungi are generated and reproduced by the application of such manures directly to the roots, and they immediately attack the tree.

The President, in concluding his address, remarked upon the benefit which associations like this confer not only upon horticulturists themselves but upon the whole community, and recommended the widening of the scope of the subjects discussed, so as to include other branches of horticulture besides fruit growing, which recommendation it was decided by the meeting to henceforth put in force.

New Varieties of Fruit.

Upon a call being made for new varieties of fruits which are worthy of note, there were not many responses. Mr. Satterthwaite spoke of the *Rutter* pear as being well worthy of attention, he considering it a great acquisition, and as being one of the very best of pears—of course he would not recommend any new variety for extensive planting, but this pear deserved a trial. One objection to it is that it ripens its whole crop at once and does not keep very well, and consequently all the fruit must be marketed in two or three weeks.

Fences and Hedges.

A very interesting discussion took place upon the question as to what is the most economical fence for farms, orchards and gardens, and the best method of treating live fences. Mr. Meehan had had 52 years experience in live fences—at 4 years he crept through one after raspberries, and got caught and licked by the gardener before he could get back again. He thought a stout, thorny, live fence was the best protection, the best moral persuader to good works, and the most profitable kind attainable. Timber is becoming scarce and dear; a life-time is required to grow it at a profit, and here there is no inducement to grow it. Unless the government undertakes to foster tree-planting, timber will get dearer and dearer, but live fences, as they become better known, will become cheaper and cheaper. The *Osage Orange*, he said, was a most rapid grower, which is an objection to it as a hedge plant, as it soon becomes a tree, when it loses its lower branches, and consequently its protective character. Another objection to it is that spines are found only on the young growth, which must therefore always be kept up. In the *Honey Locust* the thorns grow continually from the old wood, and it will grow on poorer and drier soils than the Osage Orange, which will not grow on the light sandy or gravelly soils where the Honey Locust flourishes. The latter also grows into trees, and without thickening out as does the former, but the numerous spines of the Locust are an advantage. It is, however, a great favorite with mice on account of its succulent roots. Shrubs are preferred by many for hedges, but they grow too slowly. The several varieties of Thorns are not only slow growers, but they are liable to the same insect enemies that attack the apple and quince, belonging to the same plant family. The Pyrus japonica makes a good hedge, but it takes ten years to do it. The white-berried variety of the *Pyracantha* is of so dense growth at two years old that a bird cannot go through it, and it is perfectly hardy. The old red-berried variety is straggling and needs much pruning. Rabbits are very fond of this plant, and will cut it down every winter.

For some time to come we must depend on the osage orange and honey locust. In planting an osage hedge, the best plan is to plant but *one* row of seedlings, on account of the facility of keeping clean of weeds, which is difficult to do with double rows. The speaker described the several modes practiced in planting a hedge, and said he thought the best plan was for a man and boy to work together, the former with a spade making the hole, into which the boy puts the plant, setting it on a slant. Believes the best after treatment of hedges, instead of cutting them back every

year, or of plashing them—which is cutting each plant partly through and bending it over—is to let the plants grow two, three or four years, and then saw all off to within an inch or two of the ground. From twenty to twenty-five shoots will then spring out from the stump and the hedge can be trimmed into shape. The plan of cutting back every year has a tendency to weaken instead of strengthen the plants. In that proposed it is sometimes, but not frequently, necessary to cut back a second time. Old trees may be sawed down, and even if 25 years old will thus make a good hedge. The best time to cut off the plants is in winter, when the trees are leafless—the sooner after the fall of the leaf the better. If cut in summer, the plants would be destroyed. Trimming is best performed about the middle of June or the first of July, when the new growth is tender. If cut with a scythe, a man can trim a mile of hedge a day. It must be cut with two slopes. The plants thus get light, getting light they get food, getting food they get strength, and getting strength they get bushy.

Mr. Williams, editor of the Horticulturist, N. Y., said he had no other hedges than osage orange, but they were an enormous waste of ground, occupying a width of fifteen feet, and harboring birds, &c. Still, he thought it the most successful of hedges, and that nothing can supplant it.

Mr. Miller, of Germantown, Pa., agreed that the osage orange is *the* hedge plant, but thought it had been trimmed too much. He adopts the plan suggested by Mr. Meehan. Where neatness is not an object, it requires cutting only once in two or three years. The cost of trimming is nothing compared with the repairs of wood fences.

Mr. Harrison had found in making wood fences that lime was the best preventive of decay obtainable. Put the lime around the posts as they are set.

Mr. Parry, of N. J., said where he lived there were *no* fences, and the plan works admirably. There is no trouble with cattle, which formerly stripped all the fruit from the branches overhanging the roads. Now the fruit is regarded as belonging to the grower, and he gets it.

Mr. Stouffer recommended the use of portable fences, to allow of inside fences being dispensed with.

Mr. Eckert, Pres't Berks Co. (Pa.) Agl. Soc., said locust posts and cedar rails cost 25 per cent. more than chestnut posts and rails, but are far cheaper, durability considered. He thought live fences better still, and *no* fences best of all, being a firm believer in soiling.

Mr. Martin gave his mode of planting an osage hedge. Several furrows are thrown together with a four-horse plough, followed by a subsoil plough, also drawn by four horses. The plants are set on the centre line, which is the highest; the hedges occupy no more space than the ordinary headlands, and do not exhaust the soil to any considerable extent, as he could show by the finest dwarf pear trees growing luxuriantly within 8 feet of such a hedge.

Preparing Ground for Orchards.

The subject of the preparation of the ground for an orchard coming up, Mr. Meehan said he did not believe in underdraining or subsoiling orchards. The feeding-roots of trees are near the surface, and if they are fed, there is no necessity for deep tillage. He approved of a system of ridging the land, by which by successive ploughings the soil is thrown up two or three feet above the natural level, and the trees are planted on the ridges. This is so economical a process compared with underdraining and subsoiling as to possess great advantages. The idea of making the whole orchard "one big hole" is ridiculous, expensive and useless.

Mr. Parry had not much faith in great preparation of soils for fruit planting, and it is unnecessary. An elevated position is generally best, and more naturally drained, drainage being an essential. A clay subsoil, overlaid by a sandy loam, is the best for fruit. If the soil is poor, it must be enriched; if wet, it must be drained. Commended the ridging system, which he had seen practiced on the Eastern Shore of Md.

Mr. P. Morris referred to the instance of the nursery grounds of Wm. Reed, of N. J., which were well drained, deep ploughed, stiff soil. The trees had the most extraordinary roots he had ever seen from any nursery. He said there were many cases where the clay subsoil comes within four inches of the surface, and at such places subsoiling and draining were necessities. Sometimes a very yellow subsoil is converted into a good manure by the influence of the air. Cited an instance of a man who dug a cellar and threw out such stiff clay that he was afraid to put on his land or in his barn yard, and which he threw out on the sides of the public road, where the next year, it produced the finest white clover ever seen in that section.

Mr. Engel objected to subsoiling, on the ground that soils naturally compact soon relapsed to that condition after the process, and that loose ones did not need it. Favored rather the gradual turning up and mixing with the surface of the subsoil, putting on manure, turning under clover, buckwheat, &c., and thus ameliorating as well as breaking up the under soil.

Mr. Martin, who was named by the President as one of the most successful fruit growers of Pa., said that the digging of holes 6 feet wide and 2 feet deep, and replacing the subsoil by light earth, (which Mr. Williams said was the plan he pursued,) would cost $100 an acre. A four-horse team with a plough cost him $6 a day; and another such team with a subsoil plough $6. These teams would plough and subsoil from 1 to 1¼ acres a day—the cost averaging $10 an acre, and the soil would be then broken up all over to the depth of 2 feet. Said in his neighborhood there was a great difference of opinion about

subsoiling, and the various judgments stood thus: those favored it, who had *tried* it, those opposed it, who had *not*. For himself, he, said, if Mr. Satterthwaite, (who opposed subsoiling,) took away his subsoiler, Mr. Saunders his pruning knife, and Mr. Meehan his hoe, he should abandon fruit growing and take to raising wheat and corn.

Mr. Meehan said he acknowledged he had been a false teacher; he had urged for years subsoiling as a preparation for orchards, but now he achieves the same results better than formerly and much cheaper. He described his specimen orchard, which is grown on a soil, which, at the depth of a foot, needs a pick to dig it, and at two feet requires blasting. Here he has 1500 varieties of fruit trees growing. He planted the land first with potatoes, followed them with rye; planted his trees in small holes and rather high; cut last season, which was a poor one, three tons of hay to the acre, in two cuttings. Applies compost or manure around his trees as far as the roots extend, to the depth of two or three inches. The expense of preparing the ground for this orchard was hardly more than $10 an acre. Last summer some of the apple trees had shoots from 5 to 7 feet long. Believes in keeping the roots near the surface and *feeding* them there.

We omit from our synopsis the report of the General Fruit Committee, much of which, though very interesting, was local in its character and not applicable in its recommendations to the wants of our readers in the Southern states.

The question of destructive insects coming up, there was a general acknowledgment of the merits of Weir's trap for the codling moth, which, wherever tested, has proved very efficacious in destroying that pest. This trap being patented, one member suggested to the Convention an arrangement by which the effective principle of the trap could be availed of without an infringement upon the patent right of Mr. Weir, but he was met by Mr. Meehan with the objection that there was no reason why a man, whose brains and skill had devised an improvement in horticulture, should not be rewarded as well as an inventor in any other branch of science or art, and as Mr. Weir charged a very small sum for the use of his invention, only $2 or $3, he thought fruit growers should be glad of the opportunity of rewarding their benefactor rather than seek a mode of evading the payment of his very small fee.

Management of Orchards.

The most profitable way of managing a fruit garden and orchard being under consideration—

Mr. Satterthwaite said he believed in low-trained trees, in manuring, in good drainage, and in keeping the old bark scraped off the trees.

Mr. Meehan recommended putting the land into grass after the trees were planted. This for a farmer would be generally the course giving the most immediate returns. On a plot four years in fruit, he had for three successive years raised 3 tons of hay to the acre. On the grass he put $15 to the acre of Baugh's Superphosphate, and no crop of grain or vegetables would probably have yielded as much as the hay. If low-branching trees are used, after a while they will occupy the whole ground, but by that time they will be in full bearing.

Mr. Martin planted apple trees 25 to 30 feet apart, with peach trees between them one way, and two rows of blackberries between the apples and peaches, and two rows of strawberries between the blackberries, and cultivated them all.

Mr. Coffren placed his peach trees on the *sod* and threw earth on the roots; on his land holes would hold water. Has planted peaches on the mountain sides, where scarce earth enough can be had to cover the roots, and there they do best.

Ryder's Fruit Drying Apparatus was discussed, but as we allude to this matter in another place, we omit here any report of the remarks upon it.

Profit in Ornamental Planting.

A paper was read by Mr. Charles H. Miller, of Germantown, replying affirmatively to the query "Is it profitable to beautify our grounds?" and some very pleasant remarks were made by a number of gentlemen present, all agreeing, and supporting their views by instances coming under their own knowledge, that whenever a person undertakes to plant shrubbery, ornamental trees, and flowers, he finds his return in the increased value of his land. Not only is this true, but his whole vicinity is improved also. Reference was made also to the moral effect of beautifying one's home, the attachments which are supported and strengthened by the beauties of art and nature, which can be associated with every country residence however modest; the refining influence which extends itself through a neighborhood by a single example of tasteful ornamental planting, &c. Our space gives us no opportunity to report these interesting remarks in full, and we give only an instance mentioned by one of the members of the Convention. This gentleman said, in setting out his orchards, at the end of every row of trees he plants a rose bush, choosing for alternate rows such varieties as will make a handsome contrast; his land cost him $40 an acre, and he has lately disposed of a *half*-interest in it at $450 an acre, to a gentleman, who was doubtless primarily attracted by these rose bushes. So much for the profit of ornamental planting.

The best methods of keeping and ripening pears were discussed. Mr. Noble said pears ought to be well grown. Summer pears are to be picked off as soon as they show signs of ripening. Pears need for ripening, light, heat and moisture; and to retard that process they may be placed in a cool, dark room. It is on this principle that the fruit preserving rooms are constructed. Mr. Satterthwaite ripens pears between blankets, and

finds they color up very handsomely when so treated.

Underdraining.

Mr. H. T. Williams read an essay on underdraining, quoting the experience of some very successful farmers who had obtained large results from the process.

Mr. Meehan's experience was not favorable. He had underdrained several acres of his land at a very considerable expense, but could see no difference in the crops raised upon it and upon that alongside of it undrained, and could get no more for it when he sold it.

Pres't Hoopes said underdraining was a failure with him, except in cases where the rough, coarse grasses grew; and that the course followed in New York in the vicinity of Geneva and Rochester, where even the hillsides are drained, was in his situation not only expensive but useless.

Grape Growing.

Mr. F. S. Merceron, of Pa., (formerly of Md.,) read a paper on grape growing, propagation, &c., giving a statement of the prices obtained for several years past, from which it would appear that the the tendency is downwards. No grape, he said, has been found generally reliable, since the Concord, though many are much superior to it. Were he to plant now 600 vines, he would plant 400 Hartford Prolific and 200 Concord. For wine he spoke in the highest praise of the Franklin. Mr. M. related his experience in the growing of grapes in grass. When the vines come to the age of three years, he sows the land thickly in grass, which is mowed once in June. The average of the product of 68 vines of the Franklin grape treated this way was for four years 1600 lbs.

Mr. M. exhibited the fruit of a seedling gooseberry which originated on his place, and which was pronounced by those examining it to be the largest grown in this country.

Mr. Parry read a paper considering "what are the most troublesome weeds to the fruit grower, and should laws be made for their extermination?" in which he said the perennial weeds were the worst, since the annuals were comparatively readily destroyed by the constant stirring of the ground. The perennials could only live with their roots in the soil and their tops in the atmosphere; so he fought them by cutting off the tops and continually ploughing and harrowing up the roots. One of the most annoying weeds to the fruit grower is wire grass or couch grass, (*triticum repens,*) the best way to eradicate which is to put the land in sweet potatoes, the constant cultivation of which destroys the weed. He favored a law imposing heavy penalties on persons knowingly selling seeds of any kind containing seeds of weeds, but did not seem inclined to favor the measures adopted in the West for exterminating the Canada Thistle, the appointment of commissioners, &c.

Mr. Thos. M. Harvey made an address upon the best method of manuring fruit trees, saying fruit trees must be manured, and he was disposed to find out what was needed in a manure by experiments on small plots.—Where a certain element was wanting, it would be shown by a larger production following the use of some manure containing that element, as for instance, if ashes produced an increased yield, it would indicate a lack of potash, and so on. His great reliance was always on stable manure, but there was a great difference in this article, not only as concerns the way it is preserved in the yard, but as to the animals from which it is made, the manure of fattening oxen being much better, for instance, than that of calves, or milking cows, and manure kept in yards washed by every rain and receiving the water from the eaves of the barn, will produce very small returns.

Grapes—Varieties, Training.

The grape question again arising—

Mr. Engel said he believed the Concord still *the* grape. The last season Ives' Seedling had larger bunches than the Concord; it is of good quality, hangs well on the vine, with a tough skin, which fits it better than the Concord for shipping; it ripens with the Hartford. Telegraph ripens at the same time, is hardy, vigorous, and of good sized bunches. Martha is the only reliable, hardy white grape he knows, and it is a little too sweet for some people. It is near the Concord in habit of growth, productiveness and reliability. The Cornucopia is the largest of all of Arnold's seedlings in both bunch and berry; has a sprightly taste, and is a vigorous grower.

Mr. Merceron spoke very highly of the Telegraph (or Christine.)

Mr. Engel said, in response to an inquiry, that grapes are not more liable to rot when low trained than when trained high. Knows of no method superior to Fuller's Horizontal Arm and Renewal system, except that in renewing the canes, he allows two eyes to produce canes instead of one.

Mr. Williams said the Ives gave him the most profit, and that it is the coming grape for those who can get it into market early. Two vines of Rebeccas yielded him more than any two rows of any other variety, viz: $20. What is wanted is a reliable, good white grape. Said grape growing at 5 cts. a lb. will not pay.

The members of the Convention voted upon the varieties of fruits best suited for general cultivation in Eastern Penna., and we give the result as a matter of interest.

Six Apples.—Smoke-House, Fallawater, Smith's Cider, Baldwin, Red Astrachan, Maiden's Blush.

Six Pears.—Bartlett, Lawrence, Seckel, Duchesse d'Angouleme, Beurre d'Anjou, Howell.

Six Peaches.—Crawford's Late, Crawford's Early, Oldmixon free, Smock free, Early York, Stump the World.

Two Grapes.—Concord, Martha.

Two Strawberries.—Wilson's Albany, Triomphe de Gand.

On the Culture of Cotton.

Undoubtedly the commercial prosperity, not only of this country, but that of a large portion of Europe, is directly or indirectly dependent upon the product of the Cotton fields, and fortunately for us, it has been demonstrated that no other people can successfully compete with us in its production, either in quantity or quality. When the war between the North and South broke out, the effect was soon perceptible in England, the greatest cotton manufacturer of the world, and in a very little while a large portion of her mills were idle, the operatives thrown out of employment, and to a great extent remained idle during the whole period of the conflict; collections were made in all the dependencies of Great Britain throughout the world, to support the starving multitudes thus thrown out of their accustomed employment. In 1860, just before the war, the importations of cotton into England amounted to 3,387,000 bales, from all sources, of which 2,582,000 bales were received from this country. When this supply was stopped by our intestine war, all England was aroused to the importance of the crisis, and numerous companies were formed, with immense capital at command, to instigate the production on a larger scale, in other quarters of the globe, wherever it was found that the soil and climate would permit its growth. The British government united in the movement thus made, and their consuls and other officials everywhere, were required to aid in the work of extending its cultivation wherever it had a foothold, and to search out localities which might be deemed suitable for the experiment of its production. An interesting history might be written upon this subject, but our object lies at present in another direction—and it will be sufficient to know, that notwithstanding all the efforts which were made, although the quantity was increased, yet the quality was in no instance, we believe, found to come up to that raised in our Southern states. That grown elsewhere was used, as before, in connexion with what could be still obtained from this quarter, and thus a total stoppage of the manufacture of cotton cloths was prevented, but the finer qualities of the textile could be obtained nowhere else to compete with the American.

The product of last year shows, that notwithstanding the demoralization to a considerable extent of the labor of the South, the yield is equal probably to that of any preceding year, and as it is to be hoped that more system will be introduced hereafter into the raising of the crop, an increased yield sufficient to enable us to possess the markets of the world will be the consequence. The area of its production will be enlarged, and we find that the supposed cotton belt is now being overleaped, and it is cultivated farther North than heretofore, and with profit, by the introduction of improved varieties of seed, and of good qualities of fertilizers. In North Carolina and Virginia, in localities where but little cotton has heretofore been grown, the area is being considerably increased, and we are frequently called upon from those states to give more of our space to the consideration of its culture.

The first consideration, after the selection of the situation for its production, is to determine the requirements of the plant—and although in our numbers of last volume, we gave the experience and advice of such men as Mr. Dickson and Dr. Pendleton, it is necessary that we should at this season, when preparations will begin to be made for the planting of the crop, to offer some further suggestions upon the subject.

The main requirements of the plant are, potash, soda, lime and phosphoric acid—and probably the simplest manner in which these can be supplied, will be found in the following formula, which will do for an acre:

3 loads stable or barn-yard manure—*or*, 100 lbs. Peruvian, or 150 lbs. fish guano—*or*, 20 bushels cotton seed.
7 loads marsh mud, or woods-mould, for the supply of humus.
200 lbs. bone dust.
10 bushels ashes, or 50 lbs. muriate of potash.
1 bushel plaster, and 2 do. salt.

These ingredients should be formed into a compost, layer and layer about, permitted to remain in bulk a few weeks, or until it is time to flush the land for planting, then to be shoveled over and thoroughly mixed, spread broadcast and ploughed in.

At a recent club meeting in Washington parish, La., held in Dec., Mr. Jas. Morris said that he had thoroughly tested the use of raw-bone superphosphate, and found that the difference between the rows where no manure was applied, and those where the superphosphates had been, was in favor of the latter

not less than 300 per cent. on land the poorest quality of hillsides, the soil containing about 75 per cent. of sand.

Another experiment was shown. A plat of old, thin branch bottom had been fertilized last year with superphosphate—200 pounds to the acre—rows unfertilized being left at intervals. It was planted in cotton last year, and gave a satisfactory yield. This year the same plat was again planted in cotton without any additional application of manure of any kind. When the crop was gathered this year it was found by careful and accurate weighing that two rows occupying the space unmanured last year yielded 42 pounds of cotton, while the two rows adjoining—fertilized last year—yielded 92 pounds, a difference of 50 pounds. It was found by calculation this difference amounted to 469 pounds seed cotton per acre, worth at present prices about $28. This is a remarkably striking evidence of the remunerative value of a good, honest superphosphate.

A correspondent of the Southern Farm and Home, a practical farmer, gives his views as to the value of the cow-pea as a fertilizer for cotton. The analysis of the plant he shows, apparently upon good authority, to consist of "Carbonate of potash, 44¼ parts; phosphate of lime 25½ parts; carbonate of lime, 9 parts; carbonate of magnesia, 6¼ parts; and silica, 4 parts. The seed gives: phosphate of lime, 61½ parts; phosphate of potassa, 31¼ parts; sulphate of potassa, 2½ parts; and silica, 1½. Now, if this analysis be correct, it is evident that phosphoric and carbonic acid are the chief acids, and potash and lime the principal bases which compose the cotton plant, and that the fertilizer which contains these in the greatest degree must be the best suited to the cotton crop. The common cow-pea fills the bill exactly. It is easily raised, will grow on any soil, and costs very little. An analysis has shown that 100 parts of the ash of the cow-pea contains 34¾ parts of phosphoric acid; 40¼ parts of potash; 6½ parts of lime; 5½ parts of sulphuric acid; and 6½ parts of magnesia. The pea vine gives 38 parts of lime; 17½ parts of potash; 14¾ parts of carbonic acid; 4½ parts of phosphoric acid; silica, 5½ parts; 5½ parts of sulphuric acid; magnesia, 6¾ parts."

To renovate the worn lands and make them fertile for the production of cotton, the common cow-pea may possibly be unsurpassed by any better agent, by sowing them in June and plowing them under in September. This, however, will take time, and what we now want is a suitable provision for the coming crop.

In the Field and Factory, we have the plan of the Rev. John Lusk, who is represented as one of the best practical planters in Hinds Co., Miss.; he almost *invariably from the seed of one bale of cotton makes another bale the ensuing season*, by the following method:

"In December, January, or February, with a turn-plow, he runs a centre furrow, following the turn-plow with the bull-tongue or subsoil-plow—in this furrow he sows 30 bushels of fresh cotton seed, and in addition, all the ashes he can obtain from the public colleges and schools at Clinton, or about 5 bushels of ashes to the acre—then he laps two furrow slices with a turn-plow over the cotton seed so as to rot and prepare them for plant food, (it would be better if the seed were crushed or chopped.) At the time to plant cotton he beds up his land in the usual way, but takes care to follow the turn-plow with a bull-tongue or subsoil-plow, preparing his land thoroughly and very deep, to withstand the drouths of summer. By this sensible plan he made *one* bale of cotton per acre, the last very dry season, and of a seasonable year very often makes a bale and a half to the acre."

The tap-root of the plant is said to equal the average height of the plant, and consequently the soil should be prepared to a sufficient depth to enable it to penetrate much deeper than is afforded by the general run of planters. At the end of the tap root the fibrous roots strike out, feeling their way for nourishment, like the rootlets of the cereals—they also serve as braces to the plant. Deep plowing and subsoiling therefore, in this, as in most other cases, are absolutely necessary, and thorough pulverization is little less essential, as by these means the roots penetrate to a depth which, in times of drought, will enable them to find moisture to sustain the plant and prevent it from shedding; and, (as remarked by a correspondent of the Field and Factory,) during a wet season, your deeply plowed ground and mellow, well pulverized beds, will absorb the surplus water, storing it up, as it were, for future use, and the plant is well fortified against many of the reverses it too often has to contend against—it being prepared for a wet or dry season.

The intelligent writer above alluded to concludes a very succinct paper upon the cultivation of the plant, in all its details, with the following judicious remarks, of the correctness of which there can be no doubt:

"Land that is deeply plowed, thoroughly pulverized and planted early, if well manured and properly cultivated, will, no matter what the season may be, yield a satisfactory return. One great obstacle to the cotton planter's success is, too many acres are planted, and conse-

quently the necessary attention cannot be given the crop. It is fair to presume that, with one-half the number of acres, well manured, deeply ploughed, and properly cultivated, more cotton will be made, and with less labor."

We shall, as the season approaches, from time to time present from reliable sources, such instruction as may be deemed necessary to aid the many new beginners now embarking in the culture, in their labors. Of one thing we are certain, that wherever the cotton planter can obtain cotton seed, and will gather and crush the bones that are wasted, or obtain the bone-earth from the mill, and the ashes from his own and the premises of those who will not use them, which can be gathered in every neighborhood, by mixing these with the barn-yard manure or that from the compost heaps as heretofore recommended, he can go ahead with his planting, in the full assurance of success, having prepared the ground properly for the crop.

Whin, Furze or Gorse, (Ulex Europæus.)

We promised in our Dec. No. to publish the article descriptive of this plant, which originally appeared in that most invaluable work of the late Mr. Hy. Coleman, of Mass., entitled "*European Agriculture*,"—a work for which thousands of subscribers were obtained at (we believe) $5 per copy, to enable Mr. Coleman to make a full investigation of every thing appertaining to Agriculture, especially wherever the subject was one of direct interest to his own country. As Mr. M'Cue, who directed our attention to this article, justly remarks, "a forage crop adapted to much of the South especially, is a desideratum. Where so much of the land is poor, anything that will grow on it, and yield, even under unfavorable circumstances, from eight to ten tons per acre, 'that requires no manure, but in its consumption creates a great deal,' will, I am sure, be regarded as a God-send." We fully agree with him, and think that whilst there is such an evident awakening of the minds of the planters and farmers of the South to the necessity of raising more stock, which necessitates an extended area of land in the grasses, this plant will be found of great value. We hope, if any of our readers have had any practical experience in its cultivation, that they will communicate with us on the subject. In the meantime we shall take some pains to find where the seed may be obtained. Upon good land, clover and lucerne would perhaps be more profitable; but the Gorse will, as found by Mr. Spooner, in England, grow upon a very inferior quality of land, that could not be made to support as readily the clovers alluded to.

MR. COLEMAN'S DESCRIPTION.

"This is a coarse, evergreen, prickly shrub, growing, in many cases, to a height of some feet, propagating itself, and spreading over large extents of ground which are left uncultivated, or kept merely as preserves for game. It is singularly productive; it requires to be gathered only as it is wanted to be used; and, when bruised, it furnishes a most nutritious food. I shall give the directions of one farmer in Worcestershire, (Eng.) who finds his account in cultivating it pretty largely, and whose excellent farming I had the pleasure of inspecting. There are two kinds, but that which is called French gorse is much preferred; the other kind being shorter, browner and much less succulent, is used only in times of extreme scarcity. It is advised to be sown in March or April, and either broadcast or drilled at a distance in the rows of from eighteen to twenty-four inches. When sown on a hillside, the rows should be made oblique. The young plants should be carefully weeded, as weeds and couch grass are the great enemies to the successful cultivation of the plant, and they should be protected from cattle.—Sand, lime, ashes and cinders are applied to the plant as manure; but it grows well without. It proves excellent food for horses and cows. I have not learned that it has been used for sheep. The yield is represented, even under unfavorable circumstances, to be from eight to twelve tons per acre, of green food, and where the soil is favorable, double that quantity. It may be cut in a year after it is sown; but it is deemed advisable not to commence cutting until it is two years old; and then it may be cut every year, and requires no manuring. Some prefer that it should be cropped not oftener than once in two years; but in that case the plant becomes woody and hard, and is with difficulty cut with a scythe. The intelligent farmer in Worcestershire, whose farm I had the pleasure of inspecting —Richard Spooner, Esq., M. P.—grows it upon an old woodland, cleared up, the soil of which is partly a burning gravel, partly a strong clay, but very dry at bottom, and hilly. The product of half an acre of this land is, on an average, sufficient to keep a cow five months. On rich, loamy, dry land, he informed me that in his opinion, double the quantity might be grown He has now been in the habit of using it more than twenty years. He sows it as he would clover seed, with a crop of barley or oats, and it is fit to be cut in November twelve months after sowing. He mowed it every year afterwards during the winter, as wanted, with a common scythe, close to the ground. On good, dry land, he

cuts from seven to ten tons per acre. His principal use for it is for his cows; three bushels and a half per day is sufficient for a cow. It is first cut through a common chaff cutter, or cutting box, and then bruised in a mill similar to a cider mill, the revolving fluted wheels or nuts being of iron. He has twenty-four cows in one house. Besides the gorse, they are allowed 100 pounds of hay among the whole—about 4½ pounds of hay to a cow—and eight bushels of Swedish turnips or twenty pounds of turnips to each cow per day. On this, dairy cows are kept in excellent condition, and the butter is remarkably good; fattening cows on the same allowance will fatten fast. He advised that the gorse be well ground or bruised, and salt at the rate of four ounces be mixed with it for each cow, per day. In the communication with which he has favored me, he adds, 'it requires no manure, but its consumption creates a great deal. It will grow on poor, hilly land, if dry, which will not pay for cultivating. When once sown, and well rooted, it yields a great quantity of food for cattle at small expense' He has cut over the same ground now for many years. He mows it as soon as the grass feed ceases, and it lasts until the grass comes again. If there is any appearance of snow he mows a considerable quantity beforehand, and it will keep, laid loosely down in the yard; but it must be bruised as it is wanted, for it will not keep after being bruised, not even over night. It may be prepared as above suggested, or bruised by a stone wheel on the ground—such as is used by tanners in crushing bark. An Irish farmer says of it, 'Horses eat it with great avidity, and thrive well on it. I give each working horse a bucket of prepared gorse in the morning, before going out; at dinner time, a feed of boiled potatoes; at night, two baskets of gorse; neither hay nor oats. Cow feeding is different; at daylight in the morning, the cows are driven from their stall to water—if possible, a running stream. Gorse, if crushed over night, and allowed to lie in a heap, would ferment before morning; the cattle are therefore supplied with a feed of mangel-wurzel while the gorse is undergoing preparation. After breakfast (10 o'clock) they get a feed of gorse—as much as they will eat (should any remain in the trough it is taken away); another feed at two o'clock; at four are driven to water; and at six, get a large feed, to last all night. Cattle will not eat so large a bulk of gorse as of other food, it being so rich that a less quantity suffices. Gorse, after being once established, requires neither tillage, manuring, nor weeding, producing the most nutritious food without imparting any unpleasant flavor to the milk, which is rich and creamy. Twenty acres of gorse will support 100 head of cattle, for the winter six months, without any other food, except the morning feed of mangel-wurzel, turnips or potatoes.'

Having seen the value of this plant, for feeding purposes, on the well-managed farm to which I have referred, I have gone thus at large into its cultivation, believing that the account would be interesting to my American friends.

How far its cultivation can be recommended in the United States, experience only can decide. Our severe winters and deep snows would be much against it in the Northern States; but there are localities in which, undoubtedly, its cultivation would be beneficial. The obtaining a green, succulent feed for our stock in winter, would be a most valuable acquisition. The labor required to prepare it in a country where labor is difficult to be procured, and where the almost universal practice is hurry and dispatch, and things are but too often only half done——."

Agricultural Calendar.

Work for the Month—February.

The last month of winter, as arranged in the calendar, is upon us, and although some score of days or so are borrowed from the first spring month (March) to enable the fury of the Borean blasts to subside before the gentler season assumes its prerogatives, yet such is the rapidity of the flight of time, it will appear but as a moment before the responsible duties belonging to the labors of spring are pressing upon us in such a manner as to leave no escape from the necessity of applying all our energies, to enable us to meet the emergencies of the season. Some of the matters more immediately requiring attention at this time, have already been referred to in our preceding numbers, for we always like to look ahead and take time by the forelock—therefore we have so much to say, in this and the two following numbers of the *Farmer* for March and April, that we must briefly refer to the preceding ones of Dec. and Jan., for various details which are now soon to be brought into active play. The most prominent of which are, the making or securing of the *manures* necessary for your spring crops, and the availing of every opportunity that may offer to have your ground broken up, not only to save labor at a time when your hands will be full, but also to give the soil the advantage of the meliorating influences of the atmosphere, which undoubtedly have a great effect upon the texture of the land, and also counteracts the ravages of the insects, which are destroyed by the same operation. Referring therefore to our hints on page 3 of the Jan. No., we will proceed to the consideration

of other matters requiring attention. And here we will remark, that several subjects upon which we intended to comment, have been so well handled by our numerous correspondents for this month, to whose contributions we need not more particularly refer than to say, that they are written with so much ability and minuteness of detail, that nothing we could add, so far as the culture of the crops are concerned, could increase the valuable instruction they contain.

Manures.—There are but few farms, the soils of which will yield remunerating crops unassisted by manure, and except where a large stock of cattle and other animals is kept, from which to manufacture it, recourse must be had to other sources—and notwithstanding the home supply can be increased on every farm, by paying attention to the gathering materials for the compost heap, of the importance of which we have in our time written enough to fill a good sized volume, and of the value of which we were never more fully impressed than at the present time,—still the addition of commercial manures of an approved character can always be made to pay, even if mixed with those of the barnyard and compost heap. There are three or four constituents of soils that can be supplied with advantage by the application of artificial manures—these may be summed up in a few words, 1st, *phosphoric acid*, as furnished first by bone earth, mixed with one-third or fourth of its weight in Peruvian guano, or pure Fish guano to furnish, 2dly, *ammonia;* 3dly, *ashes*, in any reasonable quantity, to give the potash so absolutely necessary to many crops; and 4thly, *plaster*, which not only retains the virtues of the manures to which it is added, but also when sown upon the growing crops attracts to them from the atmosphere the floating gases which secure one of the most necessary and valuable of all the requirements of plants,—ammonia. A clover sod turned under will also furnish ammonia—so will cotton seed wherever attainable, to a very great extent. A superphosphate made of mineral phosphates and oil of vitriol—or, from fresh bones, treated in the same way, will furnish the necessary amount of phosphoric acid, and in a soluble form. *Lime*, if not already in the soil, should be applied at the commencement of every rotation, ten bushels for each crop, or 40 or 50 bushels for the whole rotation, being amply sufficient, generally, for the necessities of the soil.

Sowing Clover Seed.—All wheat fields which were manured last fall with guano, bone earth, superphosphates or other manures calculated to strengthen the soil, should be sown now in clover—which, two years hence, can be turned in, and thus the foundation of the renovation of your lands is permanently laid—the seed can be sown (and it is preferred by many to so sow it) on the snow, as it then can be more easily seen that the seed is regularly distributed—it will gradually sink with the melting of the snow into the earth—or if this is not done, from want of opportunity or inclination to sow so early, it is better to wait until, by the absence of frost, the earth has become firm and warm, when the seed can be sown and rolled in. If you intend sowing clover seed with your *Oats*, the operation can be performed when that grain is put in—the oats to be harrowed and cross-harrowed first, when the clover seed is to be sown and rolled in—or, it will do to wait until the oats are 3 or 4 inches high, then sow and roll the clover seed in.

Orchard Grass.—If besides the 12 lbs. clover seed per acre sown on the wheat or oats, (some recommend sowing timothy or clover seed, or the two mixed, as a crop independent of either of these grains,) you will also put in 1, or better, 2 bushels orchard grass seed, the advantage of the operation will be duly acknowledged in its excellent results. Put the orchard grass seed on a floor, and *moisten* it with water slowly poured from a watering-pot, the seed being thoroughly turned over during the process, and shoveled into a pie, and thus remain in bulk 12 hours before being sown. Sow the clover seed first, by itself, and then the orchard grass seed by itself—the latter should be mixed with twice its bulk of sand or ashes, the more readily to effect evenness of distribution. The two grasses mixed make a much better hay than the clover does alone—a greater production is secured at the first cutting, while the aftermath is much larger, and the pasture in the fall will be more luxuriant and enduring, and the liability to hoven in cattle is less than when clover is eaten alone—they both come into bloom about the same time, when they should be cut, as the objection of coarseness to orchard grass is thus avoided. When the grain is harvested, it will be advantageous to clover to have a bushel or two of salt, and half that quantity of plaster, per acre, sown as a top-dressing—this will attract moisture from the atmosphere, giving the plants an impetus in their growth, and will be an additional protection to that afforded by the orchard grass, the latter, by its rapidity of growth, securing the clover from the effects of the sun after the grain is cut and removed. We have perhaps said enough upon the value of these grasses, and may again have occasion to refer to them; but before leaving the subject, we will quote from *Lorain*, in his day ranking among the most successful and intelligent of our American farmers, who, in speaking of grasses, remarks: "Orchard grass is very valuable; it springs very early; when cut off by the scythe, it neither waits for fresh shoots from its roots nor until its wounds be healed, but continues growing on just as if nothing had happened. The leaves which

have been cut, will grow, on a rich soil, nearly, if not quite, one inch in 24 hours, forming new plants gradually as they increase in length." "The stalk is very solid, grows high, and the leaves are abundant; therefore the first crop of it will greatly exceed that of timothy." Horses and cattle eat the hay freely, and thrive well on it, and it is believed to be a much more profitable grass for this purpose. In this connexion we will add, that if the land is in good heart, and calculated to bear a good crop of wheat, and has lime in it, three objects can be effected, the improvement of the land, the securing of a hay crop, and good pasture afterwards, by sowing with care this spring 1 peck of timothy, 1 bushel orchard grass, ½ bushel red-top, and 12 lbs. clover seed per acre—the three first should be thoroughly mixed and sown as soon as the ground is sufficiently firm to bear a team without injury, and then the clover should be sown by itself—lightly harrow in with a light one-horse harrow, and then the field should be rolled with a heavy roller. In our last will be found the experience of a farmer acknowledged to be the very foremost of his craft in the richest dairy county of the Empire State, on the value of orchard grass, who also gave in the same connexion, his views of the value of

Lucerne.—Of this variety of the clovers we fear we shall dwell too long—but many farmers, at our suggestion, last season entered into its cultivation, and we know, from the many inquiries relative to seed, the mode of culture, &c., that the cultivation of it is to be greatly increased this spring. First and foremost, then, we must say, that we would not advise any to make the attempt unless they intend to do full justice to its requirements, otherwise they will make a failure of it—a plant that will stand cutting three or four times in a season, yielding a larger quantity each time than almost any other of its family, and that will last from seven to ten years, it stands to reason must require strong food, and be well established through thorough cultivation in the plant-bed. In one of the back volumes of the *American Farmer*, we published the following statement of what come under the personal observation of the editor: "On the 10th of May last, we saw lucerne grown on a lawn ranging from 12 to 24 inches in height; the seed was originally sown 6 or 7 years ago, in conjunction with lawn grass seed, and notwithstanding it has been thus disadvantageously cultivated, it still holds its own tolerably well, though, as it was reasonable to expect, its uncongenial neighbor has gained pretty much the mastery." We believe the owner of that lawn on the outskirts of our city still continues to grow lucerne upon it; Mr. Coffin, as noticed in our last, informs us that he intends this spring to extend its cultivation for the benefit of his fine stock of cattle and horses; and the late Mr. Gowen most urgently urged its cultivation as the very best of all plants for soiling purposes.

Seeding and Soil.—Lucerne should be sown broadcast, if with oats, whenever it is the proper time to sow the latter, on land naturally rich or well manured—a deep loam is best, and it should have lime in it; be deeply ploughed and subsoiled, and then after a few weeks be cross ploughed and harrowed, and if possible, rolled also, so as to be brought to great fineness of tilth. The oats the first season will pay the expense of preparing the ground; a biennial top-dressing would then be the only expense, and the cropping will last for years.

Compost for Manuring.—The rough materials may be of marsh mud, river mud, woods' mould, the mould from head lands, peat or any other such substances, abounding in vegetable matters and other organic remains—with every 20 loads of either of these substances, add 10 loads stable or barn-yard manure, (or 2 to 300 lbs. Peruvian or Fish guano,) 5 bushels unslaked ashes, 1 do. plaster, and 2 of salt—incorporate these well, layer and layer about, the upper layer to be of rough materials, to be well compressed as we have before advised in the making of similar composts. After two or three weeks, thrust a pointed stick in the mass, which if found hot on being drawn out, may be considered as evidence that the decomposition was not progressing favorably, and therefore the heap will be required to be shovelled over to let in the air, and depress heat. Unless the land is supplied naturally with lime, it would be well to apply say 25 bushels to the acre, broadcast, as a top-dressing, at the time of seeding the land to the lucerne and oats. In sowing the seed, the oats should be sown first, the ground harrowed and cross-harrowed; then sow the lucerne seed broadcast, harrow it in lightly with a light one horse harrow, and the ground then rolled so as to bring the soil into direct contact with the seed, and thus promote its prompt germination. As high as 20 lbs. of lucerne seed to the acre has been recommended, but some think that as small a quantity as 12 lbs. will answer; the medium, say 15 to 16 lbs., is perhaps the best, or 8 to 10 in drills.

A *Compost* for top-dressing, composed of 5 double horse-cart loads of woods' mould, or marsh mud, 10 bushels ashes, 4 do. of bone-dust, 1 do. of plaster and 1 of salt, layer and layer about, and subsequently shovelled over every two weeks until used, would make an excellent dressing for an acre of lucerne. Broadcast it over the land *every second year*; then the ground should be harrowed and rolled; the harrowing will destroy grass and weeds, but benefit the lucerne, as from the length of its tap root its vitality would not be interfered with, and stirring the ground would promote its growth.

Plaster on Clover Fields.—A bushel of plaster per acre sown on clover fields, as soon as the clover begins to form its leaves in spring, will have a very marked effect, so much so that the trial once made, the application will not be omitted hereafter—try it on an acre at least.

Implements and Machinery of every description should now have an eye towards them—don't leave the examination until the hour you intend to use them, when you may have to stop your plow or harrow, or your cart or wagon, whilst you send to the wheelright's or the smithy some miles off, to have some repairing done, wasting perhaps the time of a hand to whom you are paying high wages, who will very willingly wait his turn, and perhaps not be much loth to let some one take it from him. If you intend buying new implements, try to have them on hand in good time. Our advertising pages show where you can get all such articles, and we doubt if better made machinery of this class can be had in any part of the country, than is to be found in this city.

Live Stock.—On this subject, also, we must refer to preceding numbers for useful hints on the care of working animals, milch cows and sheep, and breeding animals generally. The months of February and March are the most trying of the whole year, both to man and beast—the frequent and sudden changes of the atmosphere, are likely to put us off our guard, and induce a neglect of proper care to meet such changes. See to it, therefore, that your stock, young as well as old, shall not be neglected, but that comfortable quarters or stabling are provided for them to preserve them from the severe blasts of wind which are to be expected from this time out till spring ushers in its more genial breezes; and also that they receive a generous supply of food suitable to their respective circumstances or wants.

Potatoes.—We expected from an experienced grower, a paper on this crop for this month, and we are assured it will be ready for our March issue. The Rural Home thinks that the new varieties introduced of late years, have not succeeded in supplanting the old Peach Blow with a better kind; yet the latter has its deficiencies, chief among which is its lateness, bringing the labor of digging at a busy time; in this respect, the Early Rose has the precedence, but in the estimation of the Eastern growers it does not entirely fill the place of the Peach Blow, which looks and keeps well, and is fine flavored. The journal alluded to above says the Harrison variety is abandoned; that the Peerless grows large and hollow, is a good variety to grow for feeding hogs, when cooked; and that no new variety promises remarkably well. An old grass sod, ploughed deeply and well manured, a naturally moist, but not a wet soil, is perhaps the best for a potato crop—drills in which the sets are sown to be not less than 2½ feet apart, and the drills should be run deeper than is ordinarily the case, which is about 2 inches, if they are planted so early as to be in danger of frost—10 bushels seed per acre; then place your potato sets 10 inches apart in the row, and dust them with the mixture recommended below, cover up and give the top of the rows a dusting with the same mixture—when the plants begin to show, pass the harrow over the rows; and when fit to work, throw a slight flat hill towards the vines, and hand weed them, then dust again with the mixture, and repeat it at every working, and if the dusting is continued till the tubers are ripe and edible, it will be found to pay.

Mixture for an acre of Potatoes.—10 bushels unleached ashes, 2 do. salt, 5 do. lime, 1 do. plaster, and 100 lbs. bone earth, or superphosphate. Mix well, keep under cover, and these quantities will serve the season for an acre.

The organic manure for potatoes, can be furnished by 15 two-horse loads of stable or barn-yard manure; *or*, 10 loads of either mixed with 5 loads marsh mud or woods-mould for an acre—thoroughly mix, and apply in the rows—to be sprinkled over with the mixture as before advised. Let it be borne in mind, that in all cases the proportions advised of mixtures of manures, are given as a general rule; the user of them must cut according to the cloth, that is, do the best he can, considering his circumstances, and we can expect no more of any one.

Oats.—Intending to speak in our next more at length on this crop, and also to devote to the subject of *Corn*, *Root Crops* and *Potatoes* greater space than we can possibly spare at this time, we will be brief on these subjects. Oats should be gotten in as early as the ground can be properly worked—therefore the location must determine when to sow—as a general rule, however, they can be sown whenever the frost is out of the ground. Like most other productions of the earth, this crop must have justice done to it (which it seldom receives) to ensure a good crop—it is generally put off on the worst field, and with the least manure, and consequently has to bear the character of a non-paying crop. The slightest attention to its requirements will make it yield well, but if the field has not the strength in it already, and no manure is applied, of course the yield will be small—therefore, to succeed with it, plough your land deep and thoroughly prepare it for the seed. Not less than 2 bushels seed per acre should be sown on any quality of land fit to grow oats. The best soil is a heavy loam—and the best preparation for the crop is grass land broken up in the fall, and which has been limed a year or two before—the oats crop, however, most generally follows in rotation after corn, and the manure for the latter is made to answer for the former. There is this advantage in this rotation, that clover can be seeded with the oats, and wheat will follow clover; the latter being turned under in the fall, is considered an excellent preparation for the wheat. Potash and phosphates enter largely into the composition of oats, of the grain to the extent of 35 per cent. of the whole, and the

straw 20 per cent., and silica still a larger amount. For horse feed, there is nothing to exceed oats in value, not even corn—it gives stamina to these animals, and every farmer who keeps horses should sow at least sufficient for his own use. In speaking of *clover*, we have already shown the mode of applying the seed with the oats. Barn-yard manure, and the compost heap, will furnish, if given in sufficient quantities, all the food necessary for oats—but the more of ashes and bone earth you add to it, the better—generally speaking, on most lands the silica (sand) need not be brought from abroad.

Tobacco Beds.—In our Dec. and Jan. Nos., we gave sundry useful hints upon the subject of tobacco culture, which, next to cotton, is the most valuable crop the South can raise, and in the present number we have communications upon the same subject—one of which from Mr. White, of the Connecticut Valley, was written at our request, (and we here tender him our thanks for his prompt response thereto,) upon the suggestion of tobacco growers in Virginia, who are anxious to know how it is that such large and fine crops can be raised at the East, yielding so much greater profits than has been obtained from the soil and climate, which has heretofore been considered peculiarly fitted for the growth of the weed. Mr. White, in the most kindly spirit, consented to furnish us with a series of papers upon the whole subject in regular order, and in full time for our planters to take advantage of all the information which they may deem suitable for their locality and their operations. We have also other data, from the experience of first rate planters of the South, which will be given in due time in our Spring numbers.

We will here add the following statement, furnished by the Agricultural Bureau, of the average yield per acre for 1872, and the price of Leaf Tobacco on 1st Dec., viz:

	Average yield per acre.	Price per pound Dec. 1.
Massachusetts	1,750	$0 20.5
Connecticut	1,650	32.8
New York	1,033	9
Pennsylvania	1,300	14.6
Maryland	600	10
Virginia	750	10.4
North Carolina	666	10
Georgia	500	17.8
Arkansas	950	10.6
Tennessee	748	11.7
West Virginia	575	10.9
Kentucky	775	8.4
Ohio	1,050	8.1
Indiana	716	7
Illinois	850	8.5
Wisconsin	1,025	8.6
Missouri	1,060	9.5

Preparing Tobacco for Market.—We give the following timely article, says a Connecticut cotemporary, a conspicuous place: "The present crop is large and fine. We think a few suggestions as to the best method for preparing the tobacco for market may not be amiss. 1st. The tobacco should not be stripped when either too wet or too dry, but in good pliant handling order. All tobacco should be assorted into at least five classes when it is stripped. 1st. The yellow wrappers should be tied separate, not more than 8 leaves in a bundle, as near the same length and color as may be. 2d. The yellow leaf that will not do for wrappers should make another class, these bundles may be larger; then the dark wrapper makes the 3d class, with 8 to 10 leaves in a bundle. 4th. Dark leaf medium bundles, should be handled with equal care. Then the lugs, if a part are bright; they should be put as they are, the bright in bundles by themselves and the dark by themselves. Very great care should be taken in handling, as there is almost as much in the way tobacco is handled, as there is in the tobacco itself. There is nothing in connection with the crop that will pay the planter better than assorting his tobacco well, as the time has passed for a small portion of fine tobacco selling the whole crop at what the best is worth; every grade must sell for what it is worth, for, if the manufacturer buys it, he has to pay for assorting, and if the leaf dealer buys it, he has the same additional expense, and consequently takes the assorting into consideration when he buys, and will not pay as much for tobacco that he has to pay hands to assort."

Fruit Trees.—Those who intend planting out fruit and ornamental trees this spring, are referred to our remarks in late numbers, and some excellent suggestions are to be found in the communication of our correspondent "Laborer," on another page on this subject, to which we ask the attention of the reader.

The Shenandoah (Va.) Valley.—The census reports give some interesting facts in regard to the Valley. It says the Shenandoah Valley of Virginia is 125 miles long and 25 wide, embracing the counties of Augusta, Rockingham, Shenandoah, Page, Warren, Clarke, Frederick, Jefferson and Berkeley, with a population of about 160,000 to an area of 47,495 square miles, of a cash valuation of $870,000,000. It produces more from the same amount of agricultural labor and is freer from sickness of all kinds than any portion of the U. States. There are 1,001,961 acres of improved lands, and 120,860 acres unimproved.

Mr. G. G. Prindle, of Chittenden county, Vermont, has made an experiment designed to ascertain how far soil is protected from cold by snow. For four successive winter days, there being four inches of snow on a level, he found the average temperature immediately above the snow, thirteen degrees below zero; immediately beneath, nineteen degrees above zero; under a drift two feet deep, twenty-seven degrees above zero.

Correspondence.

Farming—West and South: Superior Advantages of Maryland—Revelations of the last Census—How to attract Labor and Capital—Winter Planting of Trees—Profits of a young Peach Orchard.

Messrs. Editors:—In looking over the market reports, published to-day, I find the following quotations:—

At Chicago....Corn, 30; Rye, 67; Oats, 24.
At St. Louis...Corn, 31; Rye, 75; Oats, 26.
At Cincinnati..Corn, 41; Rye, 88; Oats, 27.
At Baltimore..Corn, 65; Rye, 1.00; Oats, 50.

This statement demonstrates at a glance one of the advantages possessed by agriculturists on the seaboard. The same difference of price may be traced throughout the reports, especially of such products as enter largely into our exports. We Maryland farmers who consider our own profits very small and inadequate, find it difficult to comprehend how any can accrue to our Western brethren, even after making due allowance for the (much exaggerated) superior productiveness of their lands. Bear in mind that the prices above quoted are not realized by the farmers generally of the Northwest, most of whom sell their produce at points remote from the markets named, and at figures much lower than those given. A recent Iowa paper makes the amusing statement that potatoes are *one cigar and a drink of whiskey* per bushel in that State; and I inclose for your perusal an extract from an Ohio journal, the editor of which says he is now burning corn purchased at *seventeen cents* a bushel, and finds it a cheaper and better fuel than hard wood or coal.*

When a young man I was induced to "go West," and having had some experience in farming there, I can assure you that but a very limited knowledge of arithmetic was required to compute its profits then. My farm was near one of the best markets, but I rarely obtained over fifteen cents for corn, or more than fifty cents for wheat. This was before any of the great railroads from the Atlantic had penetrated the Mississippi valley; but their completion, it was predicted, and generally believed, would enrich the farmers. This expectation has not been realized; and the hardy ploughmen of the West have discovered that these *charitable* corporations demand the lion's share of the profits of their agriculture. Hence their present clamor for a government supervision over the railroads of the country, with a view to regulating their freight rates. It strikes me that they would display more wisdom if they would insist that the government should first reduce the tariff of charges with which it has itself burthened them. From my own experience and observation, I conclude that the profits of Western farming (conducted generally with small outlay of capital) are to be found chiefly in the ever increasing value of the land—a result due to immigration. But it is probable that before four more years have passed, those *honest* and hard-working people known as "land-grabbers," will obtain the title to what is left of the public domain; and very soon it will take as much green paper to buy a farm in Minnesota as in Maryland—in Nebraska as in Virginia. When prices thus become equalized, immigrants—who seem to regard only the first cost of land—will turn their faces Southward. All things considered, the cheapest homes for them now, are to be found in the former slave States; and the fact would be more apparent if our papers could obtain and frequently publish accounts of sales of the products of our farms, with cost of cultivation. Such reports would be of much interest and value, and I hope our practical and intelligent farmers will often favor us with them, through your journal. Few of us have probably kept as accurate an account of our labors as that which Mr. Emory gives us of one of his operations in the January number of the Farmer; and we might not be able to show as satisfactory results; but a statement even of failures and losses, and the causes of them, would be as serviceable to those who plough the land, as the locating of reefs and rocks upon our ocean charts is to all who plough the seas.

But if our advantages are superior to those of the Northwest, what must be said of those of the Cotton States? In view of the attractive exhibit of profits displayed in the letter of the Beach Island Farmers' Club to the Commissioner of Agriculture (published by you in November) there can be but one obstacle to arrest the flow of labor and capital towards them. While the Western farmers are toiling merely to increase the business and dividends of railroads, the substance of the cotton-planters is being consumed by carpet-baggers. Their plunderings are more open and shameless, if not so extensive as those of the abstractionists referred to in my last letter, and whom your usually careful printer made me call *abstractivists*. Prudent men will not invest their means in states where such corruption, dishonesty and waste prevail; and where, as we learn from the recent address of the Louisiana Committee, "the taxes on property have assumed such proportions that they might be called rents." The fact that agriculture not only survives, but is profitable under this long-continued misrule, attests the magnificent resources of the South, and the noble temper and spirit of those who continue to till its soil, while indigent ignorance and crimeful cupidity hold the reins of government.

The mild winter climate of the Middle and Southern States merits more consideration than it generally receives, though intelligent immigrants are now beginning to appreciate

[*On page 2, of our Jan. No., we gave the substance of the extract forwarded by our correspondent.—*Ed. A. Far.*]

it. Even here in Maryland, and especially in our tide-water region, the portion of the year in which we are compelled by snows and frosts to rest from field labors is very brief indeed. In fact the winter is the only season in which I am able to execute many plans for the improvement of my farm, including tree planting, although of course I would prefer to do it in autumn. Last fall I finished housing my crops about the middle of November, and between that time and Christmas, I prepared the ground for, and planted several acres of small fruits. On the 21st of December, when I finished planting them, the thermometer in Kansas and throughout the Northwest was reported to be thirty degrees *below* zero. Here it was forty degrees *above;* making a difference of seventy degrees. I have yet many peach trees to set out, but expect to have them all planted before spring. When is the best time to plant fruit trees? is a question often asked. I have planted with equal success at all times between the fall of the leaves in autumn and the swelling of the buds in spring, when the earth was not frozen or the air frosty. My way is to order from the nurseries in the fall, and as soon as the trees or plants arrive, to heel them in on the field in which they are to grow. Then if the ground has been ploughed and marked off, they may be drawn out and planted at times when the condition of the earth and air is favorable for the labor. Here we always have enough fine weather in the winter months for the prosecution of this important work. The heavy clay soils more remote from the coast, are seldom dry and friable enough for planting after the first severe frosts of winter, or until late in the spring; and on all such, trees should be planted as early as possible in the fall. But much ornamental planting can be best done when the earth is frozen; as for example, the removal of flowering or evergreen trees from the woods and fields to our lawns and gardens. Trenches should first be dug around these, leaving as much earth around the roots as can be conveniently lifted by the farm forces. Holes of like shape but of rather larger size should also be previously made at the places to which they are to be transplanted. Then on any wintry day, when the ball of earth left around the roots is firmly frozen, the trees may be safely and easily carried on a sled or cart to their new positions. The filling in around them may be done as soon as the earth softens. Beautiful cedars, hollies, black-haws, crab-apples, and other flowering trees of many years growth, that now waste their sweetness in distant groves and glens, may at this season be cheaply transferred to our lawns.

But let me return to what, on looking back, I perceive to be the leading subject of this letter. Among the many inducements which the good old South offers for the consideration of those who are seeking "pleasant homes and paying investments," is the higher moral tone of its people. This fact all intelligent and disinterested observers have long known; but we have been so persistingly, ingeniously and systematically slandered, that a credulous world and even our defamers themselves had become almost convinced of our barbarism. Now, however, comes the tardily published census of 1870 to do us justice. Without claiming your space for the tabular statements, I will only say that we have a larger number of churches and church members and a smaller number of paupers and criminals than are to be found among any native white population of equal numbers in the United States. It is not likely that a certain class of writers and caricaturists will suffer themselves to be puzzled or perplexed with these stubborn statistics.

You will, I trust, excuse me for dwelling on this subject, since our great need is—*immigration.* The price of land in most sections is generally controlled by density of population; and to all who would hasten the time when our farms shall recover their former values, the question of how to attract labor and capital is no less important than *how to make our farms pay.* Concerning the last, you, Messrs. Editors, are giving us much useful advice; and I think that one of the best ways to accomplish the first, would be the frequent publication of the receipts from and profits on the products of our land. I am but an indifferent farmer, yet if my crops of even the last dry season were sold, I should be glad to send you the result, confident that it would attest the advantages of our soil and vicinity to the great markets of the seaboard. I have never kept an account of my crops separately, but hereafter shall endeavor to do so; and also with my cows—the most valuable of our farm stock—and on which we shall have to depend more than heretofore for the profits of our agriculture. I like milk not only *per se,* but also I confess, when it is judiciously compounded with a few other farm products at the merrie Christmas season. Hence I have always had a more than *Bergh*-like regard for the "milky mothers" of my herd.

The only crop of 1872 of which I have, as yet, a full account of sales, is that from a young peach orchard of 2000 trees, planted in 1869. The following figures are at your service, if you think they will interest any of your readers. The fruit was sold in Baltimore, from which the orchard is distant about thirty miles. Transportation by regular line of steamboats:

933 boxes—sold at		$903 07
Freight and cartage	$115 47	
Commissions	68 28	
Total of charges		183 75
Net proceeds of crop		$719 32

Enough soft peaches were sold at a home market to pay for gathering this crop, and also for the two hundred boxes used in its transportation. LABORER.

Anne Arundel Co., Md., Jan. 6, 1873.

☞ Now is the time to subscribe for the AMERICAN FARMER.

Tobacco Culture in New England.

Connecticut being the first of the New England States to grow tobacco as a commercial crop, the other states have looked to growers there for information concerning its culture, &c.; and any difference in practice arises from local causes, or the lack of experience, or want of *thoroughness. Only the most thorough culturists meet with the best success;* we have those with us who lack faith in their business, as well as elsewhere, and who fail to obtain the most paying results for the reason of lack of *thorough manuring* and *culture.* To use a simile, I will adopt the words of W. W. Daniells in an address, "Some of the wants of the American Farmer": "Any housekeeper present will tell you if you want a good, nutritious soup, you must put the joint in cold water and cook slowly, for a long time, but if you want a rich, juicy roast or steak, the cooking must be done quickly with a hot fire." Please make your own application.

Manure is the talisman of the tobacco grower's success; give us manure of suitable quality and we will take a sandy soil that will produce scarcely five bushels of rye per acre, and we will grow 1800 to 2000 pounds of the very best quality of tobacco, which will sell, at present prices, for $800 to $900; and the labor will be very little more than if only one-half the quantity were produced; the modus operandi of which we propose, in a series of articles, to tell the readers of the *American Farmer.* And first in order will come

PLANT BEDS.—In our climate we can hardly expect success unless we can get our plants, good and strong, ready to set in the field as early as the middle of June, earlier in June is preferable, but if we can get our plants well started in the field by the first of July we usually have time for it to mature before fall frosts occur, the 10th of September. The seed-bed is prepared and the seed sown as early in April as the ground will admit of being well worked. For a seed-bed we select a site protected, by buildings or fences, from prevailing cold winds, &c., such as is not liable to suffer from either wet or drought, as plants are liable to suffer from an excess of either. The ground selected should be rich, no danger of being too much so if fresh, or should be made so by liberal manuring and fertilizing. The soil should be mellow, made fine, and be well drained. Prepare the beds, allowing one square rod of bed to each acre of crop to be grown, or perhaps, if a large number of acres are grown, one-half the space will do, the beds being drawn from a second, third or fourth time, as the crop cannot always be transplanted at once, in a day or two. Break up the soil as fine as possible; you cannot make it too fine even by grinding; we plough, harrow and rake ours, which is a mellow sandy loam, free from stone or other obstructions. If the ground could be well ploughed in the fall and closely covered with tobacco stalks, it is an advantage, but we often leave this undone. Before breaking the soil we spread at least half a bushel of fine well rotted manure, from the stable, to the square yard, and work it in, distributing it as evenly through the whole soil as possible, working full spade deep; after ploughing or digging the soil and harrowing it, to fine it, we apply from 20 to 30 pounds of guano, Chincha brand, to the square rod of bed, and work it into the surface with the rake, working till it is well incorporated and the soil made the finest possible; when this is done a hand roller is passed over the surface, then the surface is finely scarified with a steel or iron rake, after which we sow the seed, a tablespoon full to the square rod of bed, using the utmost care to distribute it evenly, broadcast, over the whole surface. The seed is sometimes sown alone, sometimes mixed with ashes, dry sand or plaster; and is sometimes sprouted, when we think it a little late, before sowing. After distributing the seed we roll the bed, which covers the seed sufficiently, and also compacts the surface, which greatly facilitates the weeding, &c., afterwards. To sprout the seed we go to some tree which has a hollow that is filled with decayed and fine matter, scoop out two to six quarts, as we may need, sift it to remove coarser particles; take a shallow dish and put it in, mixing the seed evenly through the whole, then add water, as hot as you can dip your finger in, to saturation; set the dish where it will keep warm and have the light, and in about a week you will see the seed begin to show the germ; now is the time to sow it. Break up, and fine the whole, with the hands, and then sow as above. A substitute for a roll may be either a board to reach across the bed, which is walked or stamped over by the weight of a man, or a piece of plank, or slab, two feet long and one wide, with a handle in the centre standing at right angles, with this the bed can be patted over; yet better than either is the roll; yet in using either care must be exercised that the soil does not stick and the seed be lifted and carried off, or thrown in patches. All sticks, roots, straw, &c., should be removed while preparing the bed, as they hinder and often do damage in weeding the beds, as also in drawing the plants for transplanting, &c. After finishing off the bed, leaving it smooth and nearly level, cover it over with brush, (white birch is the best, as most convenient to handle, &c.) tips towards the South; this admits the sun's rays while it prevents radiation materially. The bed may be thus left until the plants come up and need weeding. If cold nights indicate a frost, we either throw mats over the plants, in the beds, or cover with evergreen, pine, boughs. If the plants do not grow fast enough, we take a little hen manure or guano and soak it, sprinkling the bed with the solution, which should not be too strong, two or three quarts of either being sufficient for a barrel of water; equally good is a solution of night soil, a peck to a barrel of water sparingly applied after the plants get to the size that a

silver dollar will cover. All that now remains is to keep the beds clean of weeds till the plants are taken out. A plank, resting on its ends, stretched across the bed with a legless chair to sit on, and a jack knife to assist and protect the thumb in drawing the weeds, is all that is necessary except the work, patience, required in weeding. Weeding must be commenced early and be closely attended to in order to keep the bed perfectly free and clean of them.

As this series of articles are advanced, I shall be pleased to answer any questions I may be competent to do, through the *American Farmer*. If any are desirous of tobacco seed they can obtain the Conn. Seed Leaf from J. M. Thorburn & Co., 15 John street, New York, who advertise in this journal; or, we presume, the publishers of the American Farmer would supply any orders. The seed retails at from 40 to 50 cents per ounce. Do not write me, for I cannot supply any.

W. H. WHITE.

Lupines.

Messrs. Editors of the American Farmer:

Gentlemen:—I am a reader of your monthly journal, *The American Farmer*, and as I have lived a few years in your country, I yet take a great interest in the welfare of your farming population, which I highly esteem. Would you allow me to give a few hints as far as I can express myself in the English language, and if you find it suitable, please give your readers that little notice. My opinion is that even your Southern land, called worn-out land, is yet rich enough in all mineral substances; they are only not soluble. To make these minerals soluble, and the land fit for new products, forms of ammonia, viz: Chili saltpeter, would do best, but it will hardly pay to use this substance abundantly on poor land.

In our part of Prussia, formerly a part of Poland, we found large tracts of land just as much worn-out by successive raising of rye; dung could not be produced enough to manure all these lands, especially where there was a want of meadows. About twenty years ago the plant "lupinus" was introduced, and it was found that, on such light, poor soil, it grows very luxuriantly. This plant is the first of all to take great quantities of nitrogen out of the subsoil and the atmosphere. When the plant has blossomed, we generally cut it and make hay; this is the richest fodder for sheep, and can be mixed with cheaper provender. A great many sheep are kept and even fattened by this fodder, and we gain besides a very rich manure. We raise now great masses of fodder on soil where formerly hardly any plant would grow. But as under some circumstances it may not be profitable to raise sheep, I would advise you to let this plant grow and turn it under with the plough, either in a green state or when it is dried up; the seed may then be first cut off with a knife. I can assure you, when we turn under masses of lupine plants, we gain on poor land generally a greater harvest than by manuring with our best stable dung. Altogether we strive to gain great masses of fodder, to keep our sheep and cattle the whole year round in the highest condition, to gain stable dung, as rich and as much as possible, so that we enrich our soil without using a single pound of artificial or merchantable manure. Other green manures we do not use, as neither clover, nor rye, nor buckwheat, is so rich in nitrogen as *lupinus*. We generally use either *lupinus luteus* or *lupinus angustifolius*. I know very well even this green manure will not continue to keep land in good condition all the time, but I think it is the cheapest way to commence farming on poor, worn-out land, and will be even a means, on farms in good condition, to increase and to improve the dung-hill; a surer way for the poor farmer than to spend hundreds of dollars in artificial manure, very often adulterated and not worth half the expenses.

Should these few remarks find your approbation, I would with great pleasure give details; otherwise excuse my writing, as I have no other motive but to be of use to my fellow-farmers. Yours very respectfully,

E. WENIG,
Sec'y of Agl. Soc'y of County of Zarnikau, Prussia.

[The above communication from a subscriber to the *Farmer* in Germany, is one which we present with much satisfaction to our readers. At the present time, when so lively an interest is felt in the grasses and other forage crops for the South, and when suggestions are welcome from any source as to means adapted for restoring to productiveness the so-called worn-out lands, the information given by our correspondent is seasonable and acceptable, and we hope to hear from him again on this and other subjects of interest to American agriculturists. *Lupinus* is the generic name of the plants to which Mr. Wenig refers. They belong to the order of the *Leguminosæ*, in which are included the peas, beans, clovers, lucernes, and many other useful plants. The lupines are closely allied to the lucernes, but give, we believe, even a greater bulk of herbage, and some authors assert they will flourish where clover will not grow.—*Loudon* says of them, that—

"They are vigorous growing plants, and most of them would afford the agriculturist a considerable bulk of herbage. *L. albus* is supposed to be the species that was cultivated for this purpose by the Romans, though *L. luteus* is what is at present grown in the field in the south of Italy as human food. In the south of France it is grown in poor, dry, extensive plains, as an ameliorating crop, to be ploughed in where no manure is to be had,

and the ground is too sterile for clover or other better plants."

In *Don's Gardener's Dictionary*, vol. 2d, of Lupines it is said that—

"*Lupinus albus*, in Tuscany, is not only cultivated for food, but also for improving the land by ploughing it in, a practice continued from the time of the ancient Romans, as may be seen by consulting Pliny and Columella."

In the last work we find mention also made of *Lupinus angustifolius* as an annual plant with blue flowers and variegated seeds, and native of Spain, south of France, Italy, Sicily and Corsica—in corn fields. In the same work we find *Lupinus luteus* noted as an annual plant with yellow flowers, and as being a native also of Spain, France and Sicily.

We find the lupines quoted in the catalogues of the German seedsmen at 27*s.* for the white, 13*s.* for the yellow, and from 14 to 18*s.* for the blue per cwt., delivered in Bremen or Hamburg. These prices are gold, of course.—Messrs. Thorburn & Co., well known seedsmen of New York, offer in their catalogue the white and yellow varieties at $10 per bushel.

We regret our correspondent did not give us the quantity of seed per acre and the manner of sowing it, and we should be glad to hear from any of our readers who know of the use of lupines in this country.—*Ed. A. F.*]

Furze—Grape Growing—Tobacco, &c.

Messrs. Samuel Sands & Son:

Gentlemen:—I am very thankful for the kind attention you paid to my inquiry after *Ulex Europæus*. I have tried to get a copy of the Southern Planter, containing Mr. McCue's article on that plant, but "Old Varieties," in Frederick, who furnishes me with the American Farmer, was unable to get a copy for me. Thus I have to wait your next No., in which you promise to publish the said article. The next question is now, where to get the seed, as it is not mentioned in the numerous seed catalogues. Mr. T. Meehan, in Germantown, promised to get for me a small quantity from England, but the price of 75 cents per pound seems rather high for an extensive cultivation. Perhaps you are able to procure larger quantities at a cheaper rate.

Looking over your Dec. No., I was surprised to see what a trouble the tobacco planters take to prepare the plant beds. I think all this can be saved by simply sowing the seed in common hot-beds, and treating the plants exactly like early tomato plants. I have lived for a long period in that part of Prussia in which about one-half of the tobacco is raised which is consumed in that populous kingdom. There, nobody ever thinks of preparing a plant-bed as described on page 411 of your Dec. No., but from the 10th of March to the 1st of April they sow the seeds in hot-beds, and set the plants out after the 15th of May, thereby getting strong and *early* plants, and raising an exceedingly well paying crop, which is afterwards manufactured into *genuine* Cuba, Porto Rico, Bahia, &c., just as the popular taste demands it. I believe this to be a safe plan to raise the plants free from the ravages of the fly.

Let me say a few words about grape vines. "Laborer," on page 17 of the January No., fears that grape growing will soon be abandoned, and that hundreds of acres of vines, now growing, will rapidly disappear. I hope not. I grow grapes myself, and plant about 500 every year, well knowing that no wine on the face of the earth can excel a correctly manufactured Catawba. This grape is almost indigenous on our mountains, and though not ripening quite evenly, if you select the ripe berries, press at once, throw away skins, regulate the must in regard to sugar and acidity, ferment and decant in proper seasons, will make a wine, the like, I must confess, I neither found in any part of France or the Rhine countries. Now mark my prediction, and though advanced in years, I hope to see it verified: *Europe will ultimately have to rely on* AMERICAN NATIVE WINES *altogether*, for the grape crop on the Rhine fails almost every other year, and, on the whole, only about every seventh year is a good wine year, and the vineyards of poor France are seriously threatened not only by the oidium (*maladie de la vigne,*) but by the recent importation of our little American vine-pest, the rose bug. As any well attended grape vine will produce at least a gallon of wine, netting a dollar clear of all expenses, it is a matter of regret that California wine manufacturers have already learned the use of logwood extract and alcohol. The pure, fragrant, native juice, is what is demanded, in the manufacture and use of which the Lord Christ himself has set us his glorious example, and which is recommended by St. Paul to Timothy for his poor stomach's sake (very probably dyspepsia) and his often infirmities.

Fearing that I have imposed already too long on your valuable time, I only mention that in some future time, myself and a great many of my farmer friends here will request your valuable aid to have a vigorous law passed, which shall protect us from the ravages of our neighbors' dogs, hogs and cattle, and from trespassers of any kind, with or without gun and dog. [When my neighbor's hogs destroyed my wheat field, I could not find within a mile circuit two honest and fearless men (as the law requires) to appraise the damage. All were afraid of getting in the same predicament.]—A law that will enable us to dispense with all fences, which impoverish all farmers, that we may live in peace and harmony like the people of Vineland, N. J., where by the statute of the county no fences are permitted, and where, in conse-

quence, you cannot discover any of those unsightly barriers for miles around.

Very respectfully yours,
Frederick, Md. A. JACKSON.

[The only American seedsman's catalogue in which we find the seed of Furze is that of Messrs. Thorburn & Co., who quote it at 25 cents per ounce, which is much higher than the price named by our correspondent. In German seed lists we find it priced at 1*s.* 6*d.* gold per lb. At 75 cents per lb., the cost of seed per acre, the quantity used, as indicated by Mr. Jackson in his note, in our Nov'r No., being six pounds, would be less than some other forage plants in use.

The remarks of our correspondent on the sowing of seed of tobacco in hot-beds, we referred to Mr. White for his opinion, he having consented to answer any questions upon the subject of tobacco culture, which might be presented to him. His answer reads as follows:—

"In reply to your correspondent I would say: Our farmers sometimes, of late, have used glass on their tobacco plant beds, or a portion of them, after the plants are up, the beds being prepared and sown as usual; they have also used white muslin or common cotton sheeting, stretched over the beds, with boards a few inches high around the beds, to raise the cloth above the plants; but we do not find either generally applicable, and are only resorted to occasionally to push plants to get them in season. Plants grown under glass, in a hot-bed or as indicated above, are not as strong and good as those grown in the open air, and if we cannot get good strong, healthy plants, we had about as well have none, for they are a source of vexation and loss. The course recommended by your correspondent might answer for the amateur who wished to grow, say one-fourth an acre, but where the number of plants required is large, say 50,000 to 500,000, I think that it would be too expensive, and furthermore, we would have the backache twice in transplanting, as we treat tomatoes. In short, that mode of growing tobacco plants is entirely impracticable for the practical planter. We must calculate on at least 6,000 plants per acre to get a full stand, replanting from loss by worms, &c.—it will require 4,500 plants to fill an acre, as we grow it."

Mr. White is one of the best practical planters in the Connecticut valley, and it will be seen by his initiatory communication on another page, that he intends writing a series of articles on the Culture of Tobacco for the *American Farmer*, which he says he is prompted to do by a willingness "to help a distressed and much ill-used section of our country to the extent of my (his) poor ability." His communication in our last volume upon this subject excited much interest, and that we present in this number shows a minuteness and thoroughness which will suit the taste of every reader. In subsequent numbers, with other details of the culture and saving of the plant, he will furnish plans, illustrated, for a tobacco barn, such as is used at the North, and mode of hanging on laths, &c. Our readers will doubtless be gratified to hear of this valued addition to our corps of writers for the present volume, and the present and last month's numbers will give some conception of what may be expected in the future.—*Ed. A. F.*]

The 'Farmer' in Va.—Review of Jan. No.

Messrs. Editors:—My association with you closed on the last night of the old year, as a subscriber, and yet about eight o'clock the postman brought me the Jan. No. for the new year, replete as it has *always* been with matter of deep interest to the farmer. Suffer me to extend to you the most sincere greetings as we enter on a new cycle of time, and wish for you extended years and increased usefulness. This first day of the new year is dark, heavy, sombre. To us in poor old Virginia, the out-look for the future is dark and gloomy. Our financial condition is pitiable. Our judges, lawyers, commissioners in chancery, *all* sympathise with the bankers, hoarders, Shylocks and capitalists, to grind and oppress the producer—the poor farmer. Our taxes must be increased, and all that hundreds of our crushed people have, a few remaining acres, must be sold. Ruin and bankruptcy stare thousands of our best people in the face, with no silver lining to the cloud. "What shall we do?" though so ably and interestingly discussed by the venerable Newton, and other of your correspondents, a year ago, has not been satisfactorily answered. You, together with your hundreds of readers, will unite with me in the expression of sincere sorrow, that increasing years, with its cares, and impaired health, have deprived us of his monthly counsels, and pray that as he descends the hill of a life, so well spent, all the consolation arising from such a retrospect may soothe and comfort him.

In a communication to the Southern Planter a few days since, I expressed myself as almost jealous of so many of our best writers, such as Mr. W. Newton, Geo. C. Gilmer, and others, contributing so much to your valuable journal and so little to aid in sustaining our own State paper. Of course *you* will understand such a remark as not indicating the slightest inclination to detract from or injure the Farmer, but as feeling interest enough in the general subject to aid in building up both journals.

Mr. Gilmer's article in the Dec. No. on buckwheat as a fallow for wheat, and Mr.

Hansen's (of N. Orleans) article, in the Jan. No. of '73, on the same subject, are deeply interesting. Nothing can be substituted for buckwheat to remove filth of all kinds from our lands. Permit me to quote a paragraph from Mr. Gilmer's article and to make a suggestion on it: "I am clearly of the opinion the briar and mowing blade and mattock are now more profitable in Virginia than the plough and our present labor. Some of the very best grazing lands I own, have not been ploughed for some thirty years," &c. Exactly. In Eastern Virginia especially, in some portions of your State, and in most of the Southern States, thousands of acres are in just such condition. A little over a year ago, I traveled by stage over the western part of Greenbrier county, in this State, known as the "Meadows," that in a state of nature is covered densely with thorn, alder and other growths, often thicker than a man's arm. A gentleman of the name of Clarke, from the neighborhood of Philadelphia, has since the war become the owner of a large body of these lands. He uses a mowing machine heavy enough to shave off this growth. A pair of heavy horses or oxen will cut several acres a day. Why cannot a machine made on this principle, heavy enough to withstand such resistance, be used in such lands as Mr. Gilmer's and hundreds of other farms? But it will be said the farmer is not able to provide one. Well, let several unite, or, as used to be the case thirty years ago, some energetic young man would get up a thrashing machine and travel over an extensive district and thrash. So now, if encouraged, he will clear off all such infested land, at so much per acre. But friend Gilmer may say, too much of our Albemarle land is so covered with loose stone the machine could not operate. Then get the old worm-fence row grubbed out—substitute it with the loose stone, in a properly made wall, such as he knows of around many farms in his county—it may be, around much of his own. If the brush are thick, and no stumps, I will insure a mower such as can and ought to be made for just such work, will clear it off far cheaper than the briar hook or mattock, especially if done about the time the sap is in condition to insure their death. Co-operation in this, as in many other matters, will aid the poor farmer. As Mr. Landreth suggested, he can hope presently to do much of his ploughing by steam, if not on land obstructed with solid rock or stumps.

The exceedingly interesting article on page 9, of your last No., on the "Alden" system of drying fruit, vegetables, &c., with your permission, induces another suggestion. I must say, that to such a region of country as Southampton, Isle of Wight or Nansemond counties, in Virginia, abounding in such extensive apple orchards, that before the war almost every farmer ran his own still, and made the finest apple brandy from the cider ever drank, but the accursed policy of Federal taxation, with the horde of carpet-baggers and the worse class of scallawags to put in practice and carry out this system, so the stills have been sold in hundreds of cases for old copper, and the fruit been permitted to waste. Here this "Alden" system comes in as a God-send, and enables these people, the best population in the world, to utilize not only the thousands of bushels of the best apples, but sweet potatoes, and the abundant crop of wild fruits, strawberries, raspberries, blackberries, whortleberries, &c., when too far from water transportation to send them off fresh. Should this communication meet the eye of my old friend, Dr. Pretlow, of Southampton, who is always ready to engage in any enterprise that will benefit his people, and who has the means and public spirit to introduce this Alden process, will he permit me to request him to investigate it, believing as I do most conscientiously, it will, next to the pea crop, be the greatest help to the region named, of anything known to the writer.

The last No. of the Farmer has suggested other ideas I would be glad to say a word upon, but this communication is already, I fear, too long. The Planter, a year or more ago, had a reviewer, over the signature of "Old Iron," whose racy pen lent additional interest to each number, in his criticisms. I wish you could induce some of your many interesting correspondents to discharge the same duty to the Farmer.

Sincerely yours, J. MARSHALL MCCUE.

[Our readers generally will no doubt join with Mr. McCue in the wish that Mr. Newton should again renew his contributions to the American Farmer, a wish in which we also cordially unite.—*Eds. A. F.*]

Smut in Wheat—Cause of.

Messrs. Editors of the American Farmer:

I find in your last September number a communication under the head "*Smut in Wheat*," by J. B. Garden, in which the writer incidentally touches on the *true* cause of smut. I say true cause, because it is in accordance with my well grounded belief, and has been for very many years past, as well as with the belief of many other practical and observant farmers, who have given their views on this subject to sundry agricultural papers in the states—many of which I could lay before you and the readers of the Old Farmer, if necessary, to establish a *fact* susceptible of proof, and not a mere speculative theory, as is the "fungoid sporule" hypothesis maintained by many learned and sensible writers we know, but who have not had practical, ocular demonstrations to the contrary, as have your correspondent and others above alluded to, and whom I shall ask the favor to be allowed to quote, in part, in this introductory article.

Your correspondent, Mr. Garden, after speaking of his failure in the use of preventives of smut, as always will be the case if the "*little Turk*,"—he is diminutive in size, but

not in efficiency for his work, compared with the plum curculio,—happens from any cause to be in the ground on which the wheat is sown. Otherwise, the sulphate of copper is an undoubted preventive, by, from its acid nature, destroying the eggs of the insect, as will also scalding water and other prophylactics that I have experimented with. But after this digression, to the quotation:

"Spring before last, a neighbor of mine walking over my farm, remarked to me, that if you will notice closely you will observe on every head of smut wheat a small black bug, and when dried, a puncture in very many grains. Now whether, said he, this produces the smut or not, I am not able to say; they constantly go together."

I will now, Messrs. Editors, with your consent, quote from the Farmer and Planter, vol. 3, p. 171, an editorial of my own, drawn out by a communication from our old and I believe now, departed friend and frequent contributor, Thos. E. Blount, of Burleigh, Sussex county, Va., to the American Farmer, which we republished in the Farmer and Planter immediately following the editorial:

"*Taking the Bull by the Horns.*—It will be seen from the following communication from our old friend and contributor, T. E. B., to the editor of the American Farmer, that he is fairly in for a contest with the scientific Fungus, Mushroom, Sporule Parasitical plant theorists. Well we are glad of it, glad that one so able to defend his position has at last taken his stand on the side of experience, and not theory. For our own part, we have for many years been as well convinced of the insect cause of smut as we are of any other result from its known legitimate cause that is effected on the farm. We have had occular demonstration of this fact long since, and have convinced others, by showing them the insect on the yet unripe head of wheat, with the puncture on almost every grain plainly visible to the naked eye; by opening such punctured grain, and showing the gradual change of color, from white to light, and dark lead and black—furthermore, by placing smutted heads taken at harvest, under glasses and hatching out the young insects from eggs deposited no doubt at the time of puncturing the grain by the parent insect. Yet we have not been disposed to enter into an argument with speculative theorists on the cause of smut, rust, or mildew; all of which are attributed to the same cause by many very able writers on most subjects. We recollect seeing an opinion, and a correct one advanced, (in the Genesee Farmer we think,) a year or two since, by a writer over the signature of J. H. H., in favor of the belief that smut was the effect of an insect, and for which opinion the writer was scarcely treated with decent respect, but driven right out of the field, and his insects left to their work of destruction on the credit of 'Fungus.' We shall probably hereafter re-publish J. H. H's articles on the subject."

Next, Messrs. Editors, I give the communication of Thos. H. Blount above referred to:

"BURLEIGH, Sussex Co., Va., July 19, 1853.

To the Editor of the American Farmer:

Enclosed you will find two heads of wheat, each containing a few sound grains and smutted grains. This must establish the fact that the smut is produced by an insect; the smutted grain, in almost every instance, is punctured, though I have seen grain smutted when the puncture was not to be discovered. By taking the smallest grains at harvest, and putting them in a bottle, in a few days a worm will issue from each smut ball. On the 17th instant I exhibited these heads to our Agricultural club, consequently you will discover some of the smut balls taken from heads. In every smutted ball taken out we found, with the naked eye, a worm; these worms, after keeping them some time, turned to the black bug that is invariably found on all smutted heads about or after harvest. I have stated the facts as they have appeared to me, hoping that you will give us your opinion in your next. Soaking seed wheat in brine and rolling in lime, has turned out a complete failure in one of my neighbor's crops. I examined a good many crops, and to this crop the brine and lime was alone applied, and I found therein, just before harvest, more smut than existed in any other crop in the neighborhood.

Truly yours, THOS. E. BLOUNT."

Next, Messrs. Editors, I give you an extract from Mr. Blount's second communication on this subject, drawn out by our editorial above given:

"Messrs. Editors: The November No. of your excellent journal came safely to hand last evening; its monthly visits are looked for as those of an attached friend—for, in truth, it claims to be, and I cheerfully receive it as a friend to the cause in which I am engaged. In looking over its contents for this month, I was somewhat surprised to find an extract from a letter written by me to the editor of the American Farmer on the subject of smut.

"The facts and opinions given in said letter, were not advanced with a view or expectation of getting into a controversy with any gentleman, and more especially with any champion of the 'Scientific, Fungus, Mushroom, Sporule Parasitical plant theorists,' but at the request of the members of the Stoney Creek Agricultural Club, who were convinced by long experience and close observation that smut was produced by insect, and not a parasitical fungus, and were anxious that the facts stated in said letter should be presented to their brother farmers. We are a body of plain practical farmers—like to read the productions of theorists, but prefer to be guided by *experience*. Therefore you will perceive that 'our old friend and contributor' did not go into the 'taking the bull by the horns' for the purpose of having a regular built fight with his majesty—and I am perfectly willing for him and his subjects to continue peacefully grazing their theoretical pasture, humbly hoping they may thrive, and thriving get fat and cease their roarings against experience. For it is

an established fact that these *scientific theorists*, though they have labored diligently in their investigations, for which they deserve and have received some praise—yet their conflicting opinions as to the cause and extent of smut, are so very numerous that the the plain practical farmer has derived very little if any real benefit from their investigations and discoveries, which, in truth, mainly consist of and are presented to the agricultural mind in some imaginative remarks and loose, inaccurate experiments. Wishing to avoid, and *determined* not to enter into a controversy with 'speculative theorists' as to the cause of smut, I shall abstain from further remarks—those already made were called for by your editorial."

Here, Messrs. Editors, I close for the present, but if desired by yourself or readers, I am ready to respond, with much additional proof of faith in the "little black bug."

Truly yours, S., *of Pendleton, S. C.*

Cotton and its Culture.

Messrs. Editors of the American Farmer:

Cotton, now the chief market crop of the South, (and I think too much so, as it is made at the expense of other crops,) requires different treatment in different soils and localities—the area of its cultivation reaching from Southern Virginia to the Gulf of Mexico; so to embody in one article its proper treatment through such a wide stretch of domain would be futile.

To make as short an article as possible, I would say, with us, according to *my* judgment, it is properly managed thus: Break your land deep and harrow (subsoil if you can, though some say it does not pay, averring that the tap root of the plant needs this subsoil to which to cling; but never mind that, the tap root will find its proper hold far below any subsoiling most men are likely to do.) I contend that very few cultivated plants in nature but what thrive better in a deep tilth; *especially* so with this plant, for it does not flourish on too much water, but likes a certain degree of moisture; now this thorough preparation carries down this superabundance of water in wet and retains the right proportion of moisture in hot, dry, spells, delivering the plant from that shrivelled appearance, shedding of forms and bolls, and giving a heavier and larger yield, more and finer bolls. After the preparation of the beds, which should be reduced to as fine tilth as possible, lay off your rows 8½ feet apart, drill in a well proportioned mixture of compost, made of mould, bone, flour, ashes and salt—cover in the usual way, and see that it is properly done. After the proper thinning and weeding out, and when the plant is about 6 inches high, bar off and drill in on each side of the plant about 150 lbs. Peruvian guano and cover. Some will say this is too expensive, but in the end high culture proves the best. Do not put in more land than you can work properly—as to the varieties each one has his own fancy. Yours truly,

JNO. D. THORNE.

Halifax Co., N. C., Jan. 16, 1873.

[We hope Mr. T. will continue his remarks on this subject. We are promised by a friend in South Carolina some papers also on the cultivation of the Cotton Plant.—ED. A. F.]

Rural Economy.

To the Editors American Farmer:

The relative price of labor, and the reduction of the profits on farm products by the large proportion necessary in order to their sale (deducted through loss of packages and other risks,) indicates an entire *revolution* in our future agriculture, or more direct access to consumers, without the loss of 50 per cent. on average sales of many products.

The per centage on large shipments will be found to reduce the loss, and consequently (as in other products) confine agriculture to the largest or the smallest operator, viz: for consumption at or about home, certain products "will pay," but if sold at a much higher price in our "*large* cities," great loss is sustained. For instance, butter may sell at 50 cents, but the loss of a butter box, which costs $12, several times during the season, or worse still, the delay of several days by the express company, upsetting of boxes, and refusal to reimburse, demonstrates to the farmer that his own team is the *only* reliable one. There is no redress except he owns a large stock in "the propeller," and this involves a *large* cultivation. The last number of the Farmer contains an article exhibiting the tendency to small farming in Maryland, which will no doubt be *limited* upon the principles stated above.

The *apparent* profits stimulate many who do not see the risks, and thus the enormous production of some articles results from the *multitude* of producers who happen to hear of the prices paid in the city. The proportion of farm products that are sold *below* the cost of production at the present price of labor, would not be credited if stated on the best statistics—but we may suggest some data for calculation. Asparagus was reduced thus about 400 per cent. in price, while the manure necessary for one acre would support ten of corn; Currants accumulated in New York one day, so that it soon became manifest to the commission merchants that their sale depended on the purchase of two manufacturers (for jelly,) and these two agreed that only "one should bid," and then divide, and thus they secured many tons at about half the cost of production, say 5 cents, when 10 or 12 cts. would be cheerfully paid if they could be kept a few days longer. The purchaser himself gave me these facts, and they will illustrate the position of affairs nearer home.

DAVID STEWART, M. D.

Port Penn, Delaware, Dec. 21, 1872.

Live Stock.

First Importation of Devons.

Editors of the American Farmer:

Your favor of the 6th inst. is at hand, requesting me to give, for the benefit of the readers of the "American Farmer," the history of the first introduction of North Devon cattle into the United States; and although I feel out of place writing an article for publication, (being the first attempt of my life,) I cannot refuse to throw what light I can upon the subject, after having received so much benefit as well as pleasure from the communications of the numerous correspondents of the "Farmer." I shall, therefore, proceed to give a correct history (according to the best evidence in my possession) of what I believe to have been the first importation of pure Devon cattle into the United States, together with their subsequent history, tracing them down to the present date, believing that it may prove interesting to many Devon breeders of the present day.

In the year 1817, Mr. Coke, of Holkham, (afterwards Earl of Leicester,) gave to Mr. Robt. Patterson, of Baltimore, six North Devon heifers, and a yearling Devon bull, which Mr. Coke named "Taurus." Mr. Robt. Patterson not being engaged in agriculture at that time, gave three of the heifers to his father-in-law, Richard Caton, of Maryland, and the other three heifers he gave to his father, Wm. Patterson, of Baltimore, and the bull he gave as the joint property of the two. Mr. Caton, from some cause, suffered his herd to go down, and in a few years all trace of them had disappeared. Mr. Patterson placed his Devons upon his "Springfield" estate near Sykesville, Md. Two of the heifers were bred to a bull of Mr. Coke's before leaving England, and the third one was bred to "Taurus" upon their arrival in this country; the three heifers afterwards were bred to "Taurus," and the progeny of the whole were then bred together.

Upon the death of Mr. Wm. Patterson in 1835, the "Springfield" estate, together with the Devon cattle, became the property of his son, Geo. Patterson, who at once wrote to the Earl of Leicester that he was owner of the Devon stock descended from the bull "Taurus," and the heifers he had given his brother Robert some years before, and that he was anxious to procure a good Devon bull as a cross of fresh blood. Upon the receipt of which, the Earl of Leicester sent out the Devon bull "Anchises," (No. 140, E. D. Herd-book,) and wrote that "he had bought him from one of the best dairies in Devonshire for his own use;" and upon this foundation the celebrated Patterson Devon Herd was established.

Mr. Geo. Patterson continued to import from the best milking herds of England every three or four years (except when the cattle distemper was raging) until his death, which occurred in November, 1869, after which the "Springfield" estate, together with the Patterson Devon Herd, became the property of his daughter, who was sole heir to his estate; and according to the request of Mr. Patterson prior to his death, I, as agent for my niece, (Miss Patterson,) offered at public sale in March, 1870, this entire herd without reserve, at which sale (the bidding not being as spirited as I thought the stock deserved) I became the purchaser of the last and only imported bull then on the estate, and thirty-three of what I considered the choice of the young cows and heifers, which, together with their progeny, now constitute my Devon herd that I have had on exhibition for the last three years at the Maryland State Fair at Baltimore.

I should not have traced this herd quite so far, but thinking it might be a satisfaction to many admirers of this superior race of cattle, who have heretofore procured Devons from this herd, to know that it is still kept in its original purity, bred with the same care, and are now kept upon the same estate "Springfield," where their progenitors where placed upon their arrival in this country 56 years ago. And in conclusion I will say, that if I have committed an error in claiming the aforementioned importation as the first, no one will be more pleased than myself to have the error pointed out. Yours respectfully,

S. T. C. Brown.

Sykesville, Md., Jan. 14, 1873.

The Jersey Herd Register.

Messrs. Editors of the American Farmer:

When a deliberate attack is made in the columns of a periodical upon a person or an association, that portion of the reading public which is not informed on the subject discussed is apt to suppose that there must be some foundation for the charges made if it see no refutation of them attempted. I therefore, on behalf of the American Jersey Cattle Club, of which I am a member, feel called upon to answer a communication headed "The Jersey Herd Register," and signed L. E. Rice, which appeared in the last December No. of your journal, and I shall endeavor to make my reply concise to avoid trespassing upon your space, though it will be difficult to make it short, so numerous are the errors in Mr. Rice's article that I find it necessary to point out.

At the late Fair, held in October, 1872, of the Maryland State Agricultural Association, premiums were offered and awarded for "Jersey Herd-book Cattle," and for "Channel Island Cattle and their crosses." Upon this action of the Society Mr. Rice comments as follows: "The entirely novel rule adopted at the late Maryland State Fair of offering separate premiums for precisely the same kind of cattle, because a part of them were entered on the so-called 'Jersey Herd-book,' and a part not, seems to invite an examination into the getting up and value of the 'A. J. C. C. herd-book.'"

But in February, 1872, Mr. Rice wrote in your journal: "No good judge of cattle would fail to detect at a glance a wide difference between them (he had just been describing the Guernseys) and the Jerseys, and still I have one that has taken a first premium at a County Fair as an Alderney." Leaving these two contradictory statements to take care of each other, I pass to the second sentence of the December article: "Until quite recently all the cattle from the Channel Islands except Guernsey, were classed under the common name of Alderney, and they have been so entered and awarded premiums at all the State and County Fairs of which I have any knowledge up to this time, with the single exception above mentioned." On the other hand, in February, 1872, Mr. Rice wrote: "It is well known that all the Channel Island cattle were at first imported under the general name of Alderney, and it is but lately that any distinction has been made in this country, and so far as regards all the Channel Islands except Guernsey, there is no difference." Here again Mr. Rice is not consistent in December with Mr. Rice in February.

It would probably have been correct to say that at first, *i. e.* some twenty or more years ago, all Channel Island cattle imported into this country were indiscriminately called Alderneys, except by a few persons, who even then drew the line of distinction, though very few of such cattle had been brought from the Island of Alderney, none from Sark, and the principal portion from either Jersey or Guernsey. As an instance of those who began so early to draw that line, I name Mr. Motley, of Boston, who, in 1851, imported several bulls and cows, all pure Jersey, for himself and for the Massachusetts Society for Promoting Agriculture, and who says, "We have always insisted upon keeping the Jerseys untainted by any other breed." Mr. Motley's example was doubtless followed by many other breeders in New England. Somewhat later, Mr. Colt, of New Jersey, who had begun with cattle known as Biddle Alderneys, (being some that he had purchased from the late Nicholas Biddle, who had imported them, and which it is now generally admitted were Guernseys,) was persuaded by his farmer, Mr. Soldie, as that gentleman tells us, "to get rid of the whole of them, and to get fresh importations," which fresh importations were from Jersey. In the year 1860, I myself, who had bought several animals from Mr. Colt, offered them and their descendants for sale, simply because, as I stated in a preface to a printed catalogue, I believed them to be Guernseys or crosses with Guernsey blood, and I preferred the Jerseys. Thus, year after year, the number of persons interested in pure Jersey stock increased until it became strong enough to form an organization under the name of the American Jersey Cattle Club, and to publish a Herd Register, to which should be admitted such animals only as had been imported, or whose ancestors had been imported from the Island of Jersey. For what reason, or under what prejudice, Mr. Rice takes exception to so innocent a proceeding I cannot imagine. He himself has said that Guernseys and Jerseys differ widely in their characteristics, and the organization of a Jersey Club and the publication of a Register was only the natural consequence of the fact, that many persons in this country prefer the Jersey blood, and desire to record for their mutual benefit the evidence that certain animals which they own possess that blood in its purity.

But Mr. Rice thinks that whatever individuals may do, the Maryland State Society has adopted "quite a *novel* rule," &c., by distinguishing Jersey Herd-book from Channel Island cattle.

The United States Agricultural Society, organized in 1853, presided over for several years by Marshall P. Wilder, of Mass., and counting among its officers and members distinguished agriculturists from all parts of the country, held its first exhibition, which was for horses only, at Springfield, Mass., in 1853; its second, which was general in its scope, at Springfield, Ohio, in 1854—its third at Boston, Mass., in 1855, and at these last two exhibitions it offered prizes for *Jerseys* in their various classifications of sex and age, without mention of Alderneys or Guernseys; whilst at its fourth exhibition held at Philadelphia in 1856, it offered prizes for "Jersey (Alderney) Bulls," and for "Jersey cows and heifers;" and the Royal Agricultural Society of England, which up to 1870 had offered prizes for "Channel Island cattle," embracing Jerseys and Guernseys alike under this head, separated the classes in 1871, and offered distinct prizes for Jerseys and for Guernseys, in consequence of the special recommendation of the judges at the exhibition of 1870, who said "It is obvious that the thorough distinction existing between the Jersey and the Guernsey breeds of cattle is such that it must render the task of judging on their respective merits when in the same class and in direct competition for the same prize, one of very great difficulty, and alike unsatisfactory to the judges as it must be to the exhibitors."

Nor is the Herd Register of the A. J. C. C. the first record-book published of the pedigrees of Jersey cattle; the Herd book of the Royal Agricultural Society of Jersey was begun in 1856, and is enlarged by annual additions; and two other herd-books have been issued in this country, viz: the "Bristol Jersey Herd-book," and the "Herd Record of the Association of Breeders of Thoroughbred neat stock," which in its *second* volume became the *American Jersey Herd-book*, and which reached its third volume in 1870.

I now come to what appears to be Mr. Rice's gravest charge, which I give in his own words: "Soon after the note of preparation for the A. J. C. C. Herd-book was sounded, I wrote to Mr. Sharpless, of Philadelphia, who was said to be the leading man, asking if the older New England importations would be admitted to entry." Mr. Sharpless very naturally replied, that "no cattle should be entered that

could not be clearly traced to the Island of Jersey." Mr. Rice then goes on to say, "Knowing that such a decision would rule out the best Channel Island cattle ever imported, namely, the importations of the Massachusettes Agricultural Society, J. A. Taintor, Wm. Billings, John T. Norton and Roswell Colt," &c., &c. It follows then that if Mr. Rice *knew* that the above mentioned Channel Island cattle would be ruled out by the decision that none but Jerseys should be entered in the Register, *he must have known that they were* NOT *Jerseys.* But what did he have to say about them in February, 1872: "As I have already said, the cattle imported by Biddle were Guernsey or mixed, while those imported at the same time by Taintor, Billings, and Norton, of Conn., the Mass. Agricultural Society, and Roswell Colt, of Paterson, N. J., *were Jerseys, and as good, to say the least, as any that have been imported since.*"

Here, again, finding it impossible to reconcile Mr. Rice's conflicting assertions, I pass on to state the fact that, notwithstanding his prophetic knowledge to the contrary, any one who chooses to inform himself, may find duly entered upon the pages of the first volume of the Jersey Herd Register, which has been in print fully two years, many animals as imported by John A. Taintor, by John T. Norton and by Roswell L. Colt; and if he should find no mention of an animal as imported by W. W. Billings, it is because that gentleman *never imported* one, but bought from Mr. Taintor; and if he should find no mention of importations by the Mass. Agricultural Society, he will find entries of animals imported *by Thomas Motley for that Society.*

In this perplexity, Mr. Rice consulted Mr. Maitland, who advised him to have nothing to do with the projected herd-book, saying that he could not tell from which island any one of his cattle had come, as all had been bought in England; and Mr. Rice adds that the uniform superiority of Mr. Maitland's cattle is accounted for by the fact that "they were not bought because they were of solid color and had black tongues, but because they were good." Now the rules of the A. J. C. C. make no mention of solid color and black tongue as qualifications for admission to registry—but say that the animal must be shown to be of pure Jersey blood; and not only has the Club *not* required the exhibition of these points, but its Secretary, the editor of the Herd Register, in his able notice of Jersey cattle published in the first volume of that book, has devoted no less than two pages to the discussion of the fashionable demand for these fancy points, and has stamped with his very decided disapprobation the disposition to place them above those important points which indicate the value of the animal as a milk giver and butter producer. That Mr. Maitland's cows were selected because they were good, by no means establishes the fact that they were Jerseys, but proof must have been obtained with regard to the origin of such of them at least as have been registered by the sons of Mr. Maitland as imported by their father; and Mr. Maitland himself either was referring to some other book when he advised Mr. Rice *to have nothing to do with it*, or had changed his mind when, in 1869, he wrote to the Secretary of the A. J. C. C. "It was *your* book I wanted to get," &c., &c.

Again Mr. Rice returns to his imaginary grievance, "thinking with Mr. Maitland that a herd-book that ruled out the before-mentioned importations, with such animals as the Hungerford cow, Angelina Baker, Jura and King Philip, might safely be let alone."

And again, unfortunately for his selection of particular instances of omission of *the best blood in the country* from the Register, I find regularly entered in its first volume, Angelina Baker, No. 13, imported or bred by R. L. Colt; Jura, No. 224, imported by R. L. Maitland, and King Philip, No. 335, bred by R. L Maitland—and as for "the Hungerford cow," I learn from Mr. Hungerford himself that he is not aware that any cow owned by him "could be said to be celebrated as the Hungerford cow," but that he bought in 1854, from "her importer (John T. Norton) a four year old cow, which proved to be the finest and best cow he has ever seen, and from her raised a large and fine family," &c. This doubtless is the cow of which Mr. Rice has heard, and to which he refers as "the Hungerford cow," and *she, too*, is entered in the Jersey Herd Register as Daisy, No. 241.

Mr. Rice, however, does not contend that a herd-book cannot be made valuable, but that it can be made so only "when cattle entered pass the scrutiny of real judges, not new men, who have a few cattle to sell and no customers to buy them. A herd-book should not be an advertisement, but a certificate of purity and merit." An excellent theory, but one which it is impossible to put into practice except in just such a place as that in which it is in fact carried out, namely the Island of Jersey, of which the area is so small, that no farm is distant more than a few miles from the principal town, and where, consequently, all cattle for which registration in the herd-book is desired, can be brought together at an appointed time and place and submitted to the examination of judges appointed by the Royal Agricultural Society. But how to accomplish the proposed object in a country like this, except perhaps, by the appointment, by the club, of a traveling committee of judges, whose time and whose services would have to be well paid for, I cannot imagine; and so far as I know, no editor of stud-book or herd-book, with the single exception above named, has ever attempted to pass judgment upon the quality and merits of the animals offered for registration, but has simply decided whether the evidence of the purity of their blood was sufficient to justify him in placing them in a class possessing certain acknowledged characteristics. It must remain ultimately with the purchaser to see to it that he obtains a good or a bad representative of that class.

If, however, the A. J. C. C. could not carry

out the theory suggested by Mr. Rice, it has at least taken such measures *with that intent* as seemed practicable, and these measures are, singularly enough, (for Mr. Rice seems to have been very unfortunate in his selection of points of attack on the club,) embodied in the very rules which he quotes as if preposterous or absurd. Mr. Rice has said that the earlier importations comprised the best Channel Island cattle ever imported, and that those cattle were Jerseys, and that "all the cattle bred on the Island of Jersey are neither pure nor good." Now, when the club was first organized, the importations of Jerseys into this country had been made in most instances, if not in all, by the importers themselves, or by agents acting in pursuance of orders, and were really selections from amongst the best cattle on the island. But when it became known abroad that Jersey cattle were much sought after in this country, dealers resident on the island, or in England, whose business it had been to meet the English demand for fresh cows for the use of families, not as breeders, began to send over to us, on speculation, consignments of cattle to be sold at auction, and the A. J. C. C. believing that these cattle were not representatives of the best class of Jerseys, took measures to discountenance, so far as lay in its power, the continuance of the system. As, however, the rules first adopted by the club had opened the columns of the Register to all animals proved to be of Jersey origin, the purchasers of the cattle sent over in the manner above described, claimed for their animals the right of registration; and this right was conceded from time to time, as cases were brought up in which parties appeared to have bought in good faith, until it was considered that ample notice of the feeling and intention of the club had been given, and the decision was taken to recognize no future shipments by dealers as entitled to registration; and also to limit the registration of imported animals by whomsoever sent, to such as have been already recognized by the Royal Agricultural Society of Jersey as entitled to registration in its herd-book. The clear intention of the club in making these rules was to shut out from its register the inferior animals of the Island of Jersey, and to admit only those of the highest order—those "which have been specially selected on account of their merit by real judges." The principle contended for by Mr. Rice was applied in the only way in which it is was practicable to apply it, and yet he holds up the rules as objectionable without pointing out their faultiness.

A few words more upon another issue with the A. J. C. C. taken by Mr. Rice. He says that at the late New Jersey State Fair held at Waverly, a bull that had been entered for a premium, and with which came a bill of sale from a high officer of the A. J. C. C., with the herd-book record and number, "was ruled out as a grade, being part Jersey and part Guernsey."

I have the statement of Mr. Reeder, the owner of the bull to which Mr. Rice must refer, that his bull was *not* ruled out, but obtained the second premium, an imported bull having carried the first; and that Mr. Rice himself was acting chairman of the committee of judges; and I have from the breeder of the bull evidence of the purity of his pedigree that I cannot doubt—although it does not sustain the decision of one who thinks "that no good judge of cattle would fail to detect at a glance," &c. Even had this or any other animal united in his veins the blood of a Jersey and of a Guernsey parent, he would not properly be called a grade, which is the offspring of a pure bred and of a common or part bred parent, but a *cross*, the offspring of parents of different recognized breeds.

The rule with regard to registration after Dec. 31, '72, is as follows: "That after December 31, 1872, no application for entry in the Herd Register of American bred animals will be received unless their ancestors are already recorded; also that the same limit shall apply to animals imported before June 1, 1872." This rule simply means that as the pages of the Register have been open for several years for the registration of all imported Jerseys, including the earlier importations, "the best ever made," and of their descendants—and as it is evident that the difficulty of obtaining trustworthy information with regard to early importations and breeding will increase with the progress of time—and that persons having Jerseys, but thinking it not important to register them, would take little pains to breed them carefully or to transmit their pedigrees to future generations "of this or the next century," the club has decided to close its books upon the past, and thereby relieve itself from labors of research and investigation such as in some cases heretofore have proved very onerous. The books remain open to the progeny of animals registered in either the American Jersey Herd Register or in the Herd-book of the Royal Agricultural Society of Jersey.

I have only to add that if Mr. Rice continues to have "not a doubt that there are in this country better Channel Island cattle and more of them not on the herd-book than on it," it will be well that, when he next undertakes to show reason for his belief, he provide himself with better examples of the faults of omission of the Herd Register than those which he has adduced, which somehow seem all to sustain the opposite view of the question.

J. HOWARD MCHENRY.

Baltimore Co., Md.

Herd-Book and other Matters.

Editors of the American Farmer:

I see by the hint thrown out on page 40 of your January number, that there are "rods in pickle" for me, and as I have a few more "last words of Richard Baxter" to say, I propose to say them before I am *reviewed* and extinguished. I am an enthusiastic believer in Alderney cows for the dairy. If their points are thoroughly understood, if they are

carefully and judiciously bred, and their valuable qualities as milkers fairly explained to dairymen when sold, they will surely make their way, and, at no distant day it will be admitted that they deserve the highest place as milkers and butter makers. Their good qualities will never be explained and brought out by *fancy* men, who would make you believe their valuable points are measured by a name and number in a herd-book, a solid or single color, a black tongue and tail, and an escutcheon or milk mirror to suit the latest fashion. In regard to color: while a pure blooded animal like the Devon can be bred as true to color as the raccoon or rabbit, those of mixed origin, like the Short-Horns, Ayrshires and Jerseys, cannot be. This is or should be understood by all breeders, for all know that while the same bull and cow may produce two or three calves of the same color, they are much more likely to show a different color at every birth. The scale of points of the Jersey Royal Agricultural Society gives 30 to the bull and 32 to the cow; they do not mention color, except the grey muzzle or mustache; as that adds to the beauty of the animal and is a distinctive mark of the breed, it is well to make a point of it. Nothing is said about the escutcheon or milk mirror, and while it is by no means the best or surest indication of a great milker, it is one of the marks not to be overlooked. A cow with a thick, cloudy horn, a thick and tight skin, coarse limbs and a bull neck, is rarely ever a good milker. The horn should be slim, crumpled, clear and yellow, the skin yellow, and the thinner the better, the hair soft and fine, the hips broad, limbs fine and clean, the neck thin and the milk veins running from the udder large and well developed.

After all, about as much depends upon the way the cow is first broken in to milk and the handling she receives from the feeder and milker as all the rest. If a cow does not have good care, gentle handling, and a skillful and good milker, she will never make a great milker, whatever her blood may be. The best Jersey cow I ever had or saw (Creampot) was of a blueish-black on her sides, with a good deal of white on her flanks and shoulders, with a tan-colored streak on her back; she made 18 pounds of butter a week on grass alone. I sold her heifer calf by my imported bull, Monitor, (the best Jersey bull I ever saw,) to Dr. A. D. Newell, of New Brunswick, N. J., a gentleman who has owned and sold nearly 400 Jersey cattle; he has told me that the heifer proved as good a cow as he ever had; he made two or three attempts to get her on the herd-book and failed. The sire and dam were of Mr. Billings' importation, and the wary managers of the A. J. C. C. were afraid she could not be traced directly to the Island of Jersey.

If there had ever been on any of the Channel Islands any breeders, who, like the brothers Colling, Short-Horn breeders, managed their animals so skillfully as to make what might be called a new breed, it would be worth while to have a herd-book to register the result of their skill, but there have never been any such breeders, and it is not many years since any particular care has been taken on the Islands about the purity of the cattle. As is usual in such cases, every breeder will tell you his cattle are pure, but they are not all pure or good.

Any herd-book that does not go behind the record of importations and critically examine the important points and qualities of the animals it proposes to register, is an unsafe, and, in my opinion, perfectly worthless publication.

Mr. R. W. Cameron, of New York, one of the largest of the recent importers of Jersey cattle as well as of thoroughbred horses and other animals, and a capital judge, in an article published three or four years ago in the Country Gentleman, said in substance, that if two-thirds of all the Jersey cattle started for this country within the last few years, had been lost on the voyage, it would have been better for the reputation of the breed.

There is no herd-book register kept of Ayrshire cattle in Scotland, and yet the Ayrshires imported from there or bred here are more uniform in color and characteristics than the Jerseys.

There is a Short-Horn herd-book in England and also one here, the former running into very high numbers, but who ever heard of Walcott & Campbell, Mr. Cochrane or Col. King having sold at a high price Dandy or Daisy, herd-book so and so; instead of that you will see reported the sales of Duchesses, of Princesses and Dukes, giving the pedigrees and descriptive points of the animals.

I have never in my life offered an animal for registry in any herd-book, so my corns are in no danger. I have no ill-will towards any breeder of Jersey cattle, nor have I any ill-will towards any speculator in that kind of stock, but I must confess that I have more regard for the quadrupeds in this case than the bipeds that talk and sometimes write about the matter. I mean men who would sacrifice the really and only valuable qualities of the Jersey cattle, their milking and butter-making traits, to color, marks, and fancy points, which are of no practical importance whatever, but likely, if indulged in, to enlist fashion in the ranks of folly, and divert the attention of breeders from trying to make *essential* improvements in this valuable breed of animals, now attracting so much attention.

L. E. Rice.

Princeton, N. J., Jan., 1873.

York Co. (Pa.) Agricultural Society—*Election of Officers.*—At the annual election of this Society, last week, the following officers were elected for the ensuing year: John Evans, President; P. A. Small and D. Reiff, Vice Presidents; Dr. W. S. Doland, Recording Secretary; A. H. Glatz, Corresponding Secretary; Herman Boke, Emanuel Herman, George Maish, John Ahl and Edward Smyser, Managers.

The Apiary.

On the Management of Bees.

Messrs. Editors American Farmer:

Yours of the 3d instant is received, and I hastily reply to the questions you ask in reference to bees.

1st. We have two kinds of native bees, the black and grey bee; the former are very vicious and much smaller than the grey bee—the honey that they store is very inferior, so much so that they have been almost entirely discarded; in fact, I know of but one colony in this vicinity.

The grey bee, I might say, is the only kind kept here, they being easily domesticated, very docile when properly handled, very hardy, and able to forage for themselves sufficiently to give a fair yield of surplus honey, and to store enough for winter use in any ordinary season. I have been unable so far to get the Italian bees. In the fall of 1869 I got a queen of Mr. R. Colvin, of your city, and introduced her into a native colony with the intention of "Italianizing" my entire stock, (then but four colonies.) Everything went on finely until the following March, having then but a very few of any but Italian workers in the colony; but upon examination at this time I found them queenless, and a number of young queen cells started, and when one hatched there were no drones to impregnate her, consequently I lost my Italians, and had afterwards to give them eggs to raise another to save the colony.

I use the Langstroth Movable Comb Hive to the exclusion of all others that I have seen or tested. I use them simply because they yield me more honey, purer honey, and in a more salable form than any that I have seen. Now I do not mean to say that the hive makes the honey, not by any means, but I do most explicitly say that unless you have a hive of which any part is accessible at any time, you cannot give your bees the assistance they need, and therefore cannot raise honey for profit, particularly if an amateur; and a movable comb hive is the only one you can do this with, which I think is Mr. Langstroth's patent. The superiority and advantages of a movable comb hive over all others are too numerous for me to enumerate here, but by reference to Langstroth on the Honey Bee, page 95, your readers will find them fully and ably set forth.

For the last two years I have not grown any crops particularly for my bees; prior to that time I grew buckwheat, but do not believe it paid, as our section of country abounds in wild forage, both early and late, a part of my occupation being the culture of small fruits, and having acres of raspberries, which are one of the best pastures for bees; for, when in bloom, they seem to discard every thing for them. The blossoms droop and protect the honey from moisture, and the bees can work on it when it is too wet to work elsewhere; they even discard white clover when it is in bloom, and as they furnish a succession of flowers for weeks, they yield a large supply of honey, which is delicious, and in flavor superior to that from white clover. In fact there is no time (except during the prevalence of a drouth such as we had last year) from February when the marsh alder is in bloom, until late frosts, that our bees have not an abundance of forage.

Feeding.—This I never have to do, or the least occasion for it, so far as honey is concerned; in fact, I have frequently had to take entire frames filled with honey from them, and substitute others partially filled, that the bees may have some empty cells to crawl into to protect themselves from the cold. The full frames are given to weak colonies in the spring. I do feed them with unbolted rye flour, a substitute for pollen or bee bread; even where there is probably a sufficiency in the hive, they prefer it fresh, and will start to raise young much sooner, which is an advantage; you then have good strong colonies to gather honey when it is abundant.

I know of no branch of rural economy more profitable (time and capital considered) than bee keeping, either in a large or small way, if conducted intelligently; and with the many able authors on the subject that have given it years of close study and observation, and have made public the facts so plain and at such a nominal cost, and with a hive that you can get into and witness all they tell you, and prove whether they be facts or not, I say there is no possible excuse for ignorance. Any farmer has ample time to superintend a few colonies, and it would be amusement for him. To conduct it on a large scale, or for profit, say with seventy-five or one hundred colonies, would require one man's undivided attention the most of his time, and when the bees did not require it, he could be making or repairing hives, packing and shipping honey, &c.

Now, bee-keeping is like every other occupation, it has its troubles, for the bee has its enemy, the *bee moth*, and a troublesome little fellow he is, for so far he has baffled the skill of all apiarians to prevent their entering the hive. I will here quote from the well known and enthusiastic apiarian, Henry K. Oliver, of Mass., in his report on bees to the Essex Co. Agricultural Society, which, though made some time ago, is just as applicable now. He said: "The ravages of all other enemies of the bee are but a baby bite to the destruction caused by the bee moth. They are a paltry looking insignificant little grey haired pestilent race of wax and honey-eating and bee-destroying rascals, that have baffled all contrivances that ingenuity has devised to conquer or destroy them." And so it is to this day. The only preventive that I have found is strong and populous colonies. These you cannot always have without attention. Should they once get possession and are taken in time, you can take out the parts of comb affected, de-

stroy all that you see, put the bees in a clean hive, strengthen the colony with bees from another—in this way your loss will be very small, and you can keep them pretty well under control.

Bees are liable to disease—dysentery and foul brood; the latter affecting the bee in the larvæ state, but so far I have not had a case of either.

I generally protect my bees in winter by placing them behind a close plank fence that protects them from the north and west winds, but for the last two years have left them on their summer stand facing the south, protected only by palings, and they have wintered very well, but I think it much better to give them more protection.

The hives I use, as I have before stated, are the Langstroth Movable Comb, consequently I can prevent swarming by destroying the young queen cells, as the old queen always leaves with the swarm, but never until one or more of the royal cells are sealed over—it would only be necessary to destroy them every eight or ten days; but I have never resorted to this as it is very troublesome, but put on the surplus honey boxes very soon, with simply comb in them to attract the bees, and they go to work in them directly, which I think is a great check on their swarming; and if I want more swarms I raise them artificially, and after I get my queens hatched and impregnated, I take a frame of brood and honey, one from each hive, until I get as many as I want, and build the young swarm up at once, give them a surplus honey box, and they are soon at work in it.

I have never kept a correct record of my sales of honey, but am certain they have averaged me $5 per hive clear in the last five years. In 1871 I sold from sixteen colonies over $200 worth of honey and got nine young swarms; but from the twenty-five last year sold only about $100 worth, it being the poorest season I ever had; the drouth so completely parched up every thing that the bees had nothing to subsist on but decayed peaches, of which fortunately we had a plenty.

Now, Messrs. Editors, before closing this, and wishing you and your valuable journal a happy and prosperous new year, I feel in justice to myself as well as to your readers, to add a word or two more, though I fear I have been far too lengthy with this. Some of your readers may say this thing of opening a bee-hive full of bees and examining any and every part of it, may look very pretty on paper, and will do to talk and write about, but you would not catch me doing it. To all such I will say, provide yourselves with a pair of thick yarn gloves, with tops sufficiently long to cover the wrists, (Mr. Langstroth says use gum, but they are worthless; the bees abhor the smell of gum, and every one that stings them leaves his sting and dies. I have come away from one bee-hive with fifty stings in each glove, but with the yarn I have never been stung, nor have I ever seen a bee sting left in them.) Provide also a bee hat made of wire cloth, the meshes of which are too fine to admit a bee, but coarse enough to admit a free circulation of air and permit distinct sight; the piece should be about one foot wide and two and a half long; bend it round and sew the edges together, use common muslin for a top, also for a curtain about ten inches wide, sewed to the bottom edge—this I tuck under my coat or vest, and with this protection it will be impossible for a bee to touch you, you can then perform all your operations fearlessly. Everything should be done with a careful and steady hand to avoid irritating the insects. All operations should be performed between the hours of ten and two, when most of the bees are out at work and but a very few in the hive.

KENT.

Kent county, Md., January, 1873.

The Vegetable Garden.

Work for February.

There is not much variation, as the seasons generally come, in the work of this from that of last month. Hot-beds, manure, tools and seeds need our attention. Manure is now the most important consideration, for the land and the hot-beds. Accumulations should be made in piles easily gotten at and kept in the right condition. Manure intended for the hot-beds must not be allowed to get spread out and so become frozen. Tools are to be looked over, broken ones replaced or repaired; seeds should be ordered and tested; poles and sticks for beans and peas made ready, and as much other work done in advance of the opening of the spring as possible, and as the season advances, the "*American Farmer*" will keep you posted up for the work ahead.

As soon as the frost is out of the ground, the period of which will vary of course, with the latitude, the seeds of the hardy vegetables may be sown, such as beets, cabbage, lettuce, onions, parsnips, but until the ground has become warmed, it will not do to venture the tender sorts, as the seeds are sure to rot. A planting of *Peas* may be made in some sheltered corner of the garden. A good top-dressing of manure gives considerable protection, and a board laid over the row at night still further preserves them against frost.—During the day it may be turned on one edge on the north side of the rows, where it serves as a shield against cold winds. Peas, as a rule, are not planted as early as they might be. A good plan for early potatoes is to keep a few in a warm place, where they will sprout, when they can be planted in a warm part of the garden. *Cabbage* seed, neglected to be sown in the fall, may be sown in a cold frame with protection at night; or even in a shel-

tered situation in the open ground, with a covering of leaves, trash, or rough manure. *Parsnips* and *Salsify*, left in the ground, should now be dug as soon as the weather will permit. *Rhubarb* may be forced by covering the plants with barrels, around which is placed heating manure.

HOT-BEDS.—No person growing vegetables ought, if possible to obtain one, to be without a hot-bed. The cost is not considerable in the first instance, and with proper care one will give many years' service. As there is nothing like giving the uninitiated detailed and elementary instructions, we subjoin a description of how to make and start a hot-bed. These useful adjuncts to successful gardening vary much in their cost and durability. In many places the pits are bricked up, and in one we know of, the sash are of iron. We will, however, describe a cheaper kind.

On a hill side inclined to the south, dig a pit about seven by seven feet, into the corners of which set posts, and to these nail boards so as to form a sort of box, the depth from the square or level being two and a half to three feet. The back must be six or eight inches higher than the front, and the sides slanting. Across the middle of this box a strip is nailed for the sash to rest and slide upon, and at the sides also strips should project above the thickness of the sash, to prevent the entrance of cold air. The sashes should fit as tightly as may be to allow of being readily moved. They are generally made of the dimensions of three by six feet, and are glazed with small sized glass, each light of which overlaps the one below it about a fourth of an inch. The sash, it is to be understood, have no cross bars as a window sash, and are readily made by any carpenter as well as being for sale at the building material establishments in every city and town. The earth should be tightly filled in around the box, and suitable provision made for drainage, to prevent water getting into the pit. When more than two sash are used, the excavation is, of course, to be extended, which may be done to any length required.

A more portable form of frame is made by nailing the boards together and allowing the whole to stand on the surface of the ground, but this arrangement causes the loss of much heat and is less secure than the pit.

The heat for hot-beds is secured by the fermentation of horse manure, which is mixed with about one-third its bulk of leaves, thereby securing a longer continuance of the heating process. Leaves and manure are to be well mixed, heaped together in piles, and allowed to remain for several days, caution being observed that the piles do not freeze, and also that the material does not become too dry. Freezing may be prevented by keeping the heaps large and well compacted, and if the manure dries, it may be moistened with water, that preferably which is warm. As soon as the mixture heats, turn over and mix and let it remain two or three days longer, by which time it is generally in active ferment again, when it is ready for use. Put it now into the pit to the depth of two or more feet, and press or tread it down firmly and put on the sash. The temperature will now rise very high, and the hot air and vapor must be allowed to escape, when good, rich garden mould is to be put in evenly and smoothly to the depth of six or eight inches. The bed is now ready for the seed, which in most cases are preferably sown in drills or rows. As a general rule, seed is to be sown six weeks before the plants can be set out. Care is to be taken after the seed come up to give air whenever the temperature outside will allow, and to cover the beds well at night.

The Florist.

Floriculture, &c.—Feb., 1873.

By W. D. BRACKENRIDGE, Florist and Nurseryman, Govanstown, Baltimore county, Md.

To think and act for one's self, as a general thing, is quite an easy matter, but to think for, and endeavor to lay down rules to govern the action of others, is quite another affair. There is one rule, however, which should govern every one in the management of their horticultural affairs, and that is, whatever you make up your mind to do, do it with all your might—don't procrastinate, for if you do, the precious season may pass. And as spring will soon be upon us, when bedding out plants, raised in the greenhouse, will find themselves overcrowded, demanding attention and a more airy situation, therefore, towards the end of the month, they should be removed to well protected cold frames. Continue to put in cuttings of Verbenas, Carnations and other soft wooded plants; and if you wish to multiply any particular kinds of Roses, place a few old plants in a temperature of about 60° to start the growth early, as cuttings from these root freely when taken off just about the time the buds begin to open; one single eye or leaf to a cutting is enough, as they emit roots readily without a bud at the base.

Tubers of Gesnerias, Gloxinias, Achimenes and Amaryllis should now have the old earth shaken from them, and the first three repotted in a light vegetable compost, provided below, with plenty of free drainage—the Amaryllis require a more loamy soil; the whole, when finished, should be planted in a warm situation, and water given but sparingly, until such times as they begin to grow freely, when the supply of water should be augmented.

Fuchsias, Allamandas, Clerodendrums, and plants of this character, may now be pruned in close and put in a warm place; when the buds begin to start, the old earth should be well shaken from the roots, which ought to be moderately pruned in and potted in a rich compound of well rotted manure, turfy loam and sand.

Sow seeds of Maurandia, Verbena, Salvia, particularly S. splendens, which is the most

ornamental plant for flower beds in late summer that we know, and for bold effect, few of Flora's beauties match it, but it requires a strong heat to cause the seed to germinate freely. Seeds of other tender plants ought to be sown this month, for at no season of the year is success so great, in the raising of cuttings and seedlings, as in the months of February and March. Many seeds never germinate, owing to their being covered too deep, and if they have been purchased from a seedsman, he is usually blamed; the covering used ought always to be of a light sandy nature; such fine seed as that of Lobelia should be sown on the surface, and pressed down with the face of a brush—the depth at which seed should be covered depends upon its size; a partial shade hastens their appearance above ground.

The tubers of Caladium esculentum ought never to be allowed to become perfectly dry, but those species and varieties with blotched and shaded foliage, that require to be dried off for several months, ought now to be repotted in a rich light compost and set on bottom heat, or in the very warmest part of the house.

Cut back and repot the old, and move into larger pots young Geraniums and Pelargoniums, placing them as near to the glass as possible.

Do not let the roots of the plants, or the atmosphere in which your Camellias are, become too dry; if you neglect the first, they will cast their flower buds, and the second evil will beget red spider.

Pleasure Grounds and Flower Garden.

Agreeable to promise, we now proceed to make a few remarks on the transplanting of trees, but as the space allotted to our articles is necessarily limited, we shall not go into the philosophy of their growth, but rather confine ourselves in detailing some of the practical processes of lifting, planting and preserving them afterwards. That there is considerable satisfaction and pride in having successfully moved a tree, twenty to thirty feet high, to a locality where shade, shelter and beauty were wanted, no one will deny, but to effect this a certain amount of knowledge is necessary, both as to how the work should be done or gone about, as well as the adaptable character of the individual kind of tree which may be preferred; and as the taste and fancy may tend in the wrong direction, we would here remind the tyro that Oaks, Hickories, and even Chestnuts and Tulip trees, are all provided with tap roots, that must from necessity be cut in taking up, and if the tree is of a large size, it seldom will survive more than one year after being moved; to succeed in having these nut bearing trees, they must be taken from the woods when very young, or else procured from some tree nursery where they have been transplanted.

Fortunately for those who love a sylvan shade, there are numerous other kinds of trees provided with horizontal fibrous roots, that can be transplanted with ease and success. Belonging to this class we have the various kinds of Maples, Elms, Ash, Beech, Linden, &c., &c.

Where immediate effect and protection for the more young and tender kind of trees is wanted, specimens of large Evergreens may be used, as the various kinds of Spruces, Arbor Vitæ and Cedars; whereas, old plants of Pines, though they may be got to live, seldom so far recover themselves as to repay the labor bestowed on them.

In moving large trees there are two modes in practice, in one of these the operation is performed in the spring or fall, the latter we recommend as ensuring the greater amount of success. The other mode is generally known as the frozen-ball system; this, in our opinion, is the easiest, and ending generally with the most favorable results.

With these preliminary remarks, we shall endeavor to show how the work of selecting, lifting, removing and planting should be performed, and in this, the first thing to set about is the selection of the trees, and if you can find such among trees that have already been transplanted, so much the better, as they will usually be found furnished with more numerous lateral roots or feeders; but if you are compelled to go to the woods for them, then select such trees as stand in an open, exposed situation, as being generally furnished with better roots and more symmetrical heads; having satisfied yourself on this point, then, with a clear head, mark out the sites for the strange trees, and with a strong arm begin to open the holes, throwing the surface earth on one side and the subsoil on the other—these holes should be deeper and broader than is just necessary to receive the ball and roots protruding beyond them; and if the soil is poor, then two or three loads of good earth should be hauled, with which to plant the tree, or a small quantity of animal manure or wood ashes may be incorporated with the original soil, but avoid letting fresh manure come in contact with the roots. The holes are now ready, and being provided with spade, shovel, pick and knife, begin to lay bare the roots of your tree, working cautiously, so as to preserve entire all the lateral, and as many of the main roots, as possible, for, in proportion, as care is taken in this operation, so will be your ultimate success. The roots of some trees run a greater distance, laterally, from the trunk, than in others, and even in the same kind of tree growing in different soils and situations. When all has been cleared and the ball undermined, it is ready for moving, and if a very large tree, this can be effected in at least two ways. W. D. B.

[CONCLUSION NEXT MONTH.]

A French chemist has determined that an acre of hops carry off from the soil ninety pounds of nitrogen, twenty-two pounds of phosphoric acid, twelve pounds of magnesia, and forty pounds of potash. It requires heavy manuring to replace this waste.

Chuckatuck (Va.) Agricultural Club.

The Club met on 7th Dec. at the residence of G. W. Bunting, Esq. Mr. Mills Rodgers was chosen Chairman. The subject for discussion was, "*the most profitable crops, all things considered, for our section.*"

Mr. Upshur considered that trucking, in connexion with stock, was the best for him—he paid attention principally to stock raising, by getting his land into grass. Of stock, would keep the very best breed of cows for butter—(not milk, as that in itself is worth very little in his vicinity)—the Jerseys above all in the world. The best mutton breed of sheep, and Essex or Berkshire the best of hogs; wants the best blood, and believes in none but blooded; would have the best pastures and hay for them—thus having plenty of manure; would raise Irish potatoes on a large scale; notwithstanding the late losses, think they will pay one year with another—some sweet potatoes, and some melons, and also peanuts to some extent—think cabbages highly remunerative; would always use all the corn and oats on the farm.

Mr. Cowling: Would sow oats, to be followed by peas for fallow; considers one acre in oats, equal to two in corn for feeding horses, and much the cheapest and easiest made; think water-melons profitable.

Mr. Bunting: Thinks it most advisable to plant mixed crops; water-melons have paid him better than any other crop since the war—would plant Irish potatoes—doubts if any profit in sweet potatoes—partial to oats—think them profitable, especially if sown in the fall—has some experience in green peas; found a difficulty in getting them to market in good condition—thinks stock would pay.

Mr. Harrell: Thinks the oat crop probably pays better than any other—water-melons also pay well.

Mr. Walhaven considered hay the best paying crop—he only got half a crop this year, which, after paying $3 per acre for saving, netted him $14 per acre profit—wheat probably paid better this year: yield 15 bushels per acre, at $1.50 per bushel, $22.50—$4 off, leaves $18.50 net per acre, but straw worth the $4 which he deducted for the seed, seeding, harvesting and threshing—therefore actually paid him $22.50 per acre; (but other members considered this $4 too small an allowance, and offered Mr. W. a large contract at that rate;) considers oats profitable and indispensable—corn paid him very well this year.

Mr. G. W. Darden: His fruit, apples and pears, have paid him best of anything on the farm—sweet potatoes next, and then Irish potatoes, cotton, peanuts, oats and corn in order named.

Mr. Taylor: Wheat, with clover, timothy, and stock—found cotton most profitable of any crop—oats pay tolerably well—also Irish and sweet potatoes, and melons.

Mr. Webb: Fruit pays very well—also cotton, melons, Irish and sweet potatoes.

Mr. Hall: Fruit (mostly apples) has paid best—found corn next, then sweet potatoes, and peanuts—but at present not prepared to say what crops will pay, but believe that cotton and the grasses, in connection with stock, would pay the best in future.

Mr. Rodgers: Has found cotton to pay the best—cattle next, and then Irish potatoes and water-melons—but apples did very well.

Dr. Briggs gave his views in a very interesting paper, which the pressure upon our pages prevents our giving at length, it being peculiarly of a local character. He goes into an argument to show the difficulties to be encountered, in answering the question, what are the most profitable crops, *all things considered*, for the location, and the same conclusions arrived at by the Dr. on this point, are equally applicable to many other localities. He says that "so rapid is frequently the change in the Norfolk market for truck crops grown for the Northern cities, that sometimes we have almost lost faith in the long established truth, that 'demand and consumption regulate prices,' and *that some other influences*, than excess of products, had much to do with these ruinous fluctuations. My own experience during the past five years leads me to think *that we shall not find*, 'all things considered,' the most profitable crops for Chuckatuck in any of the truck crops. At the same time, our location, nearness to water transportation, the adaptation of some of our soils to these crops, favorable climate and other influences, with the handsome returns when they *hit the early market*, must lead us annually to invest in the lottery of trucking," and he therefore comes to the conclusion that the usual crops of corn, oats, wheat, the grasses and minor products consumed on the farm, are the best for his location.

H. S. C. F. C.

Carroll Co. (Md.) Agricultural Society,

The annual meeting took place at Westminster in Jan., Jeremiah Rinehart, Esq., Vice-President, in the chair. A report was presented from the examining committee on the accounts of the Treasurer, R. Manning, Esq., which was adopted.

The Secretary, Wm. A. McKellip, Esq., then announced that the Directors had awarded the premium of $100 for the best acre of corn grown in Carroll county, to Wm. J. Brown, of Baltimore county.

The election of officers for the ensuing year then took place as follows: President, Granville S. Haines; Vice-President, Jeremiah Rinehart; Secretary, Col. Wm. A. McKellip; Treasurer, Richard Manning; Directors, Edward Lynch, David Fowble, Dr. Jacob Rinehart, Joseph Shaeffer, Dr. C. Billingslea, Noah Shaeffer, Lewis H. Cole, L. P. Slingluff, E. O. Grimes.

The newly elected Directors then decided that the next Fair should be held on the 30th of September and 1st, 2d and 3d of October, and also that no species of gambling or anything else by which the unsuspecting may be made the victims of sharpers, be allowed on the ground. After a vote of thanks to the officers who managed the affairs of the Society the past year, the meeting adjourned.

A committee of the Society subsequently visited Washington, and accompanied by Postmaster General Creswell and Hon. S. Archer, M. C. from the 2d Md. district, called upon President Grant and invited him to attend the next annual exhibition of the Society at Westminster. The President assured the committee that he would be present, no public engagements preventing. Vice-President Wilson and Hon. Frederick Watts, Commissioner of Agriculture, made the same promise.

Prize Acre.—For the prize of $100 for the Corn, there were six contestants, the result of which was as follows: Wm. J. Brown, 24 bbls. and ½ bush. ears; John W. Murray, 22½ bbls. and 3 bushels; H. E. Morelock, 21 bbls. and 2½ bushels; E. Lynch, 18¾ bbls. and 3½ bushels; Wm. A. McKellip, 17 bbls. and L. P. Slingluff, 17 bbls. The report shows that by some mistake not discovered until too late to be corrected under the rules before the decision was made, that the land surveyed for Mr. John W. Murray's acre contained but 141 perches, instead of 160, showing an error against Mr. M. of 19 perches, which, if it could have been discovered in time would have given that gentleman the prize, and averaging the 19 perches at the same rate as the other part of the lot, would have yielded 130 bushels to an acre.

Mr. Brown's Statement.—The acre was cleared in 1848 of its timber, and has been cropping it ever since, with the exception of the last three years, and then it was seeded down to timothy; mowed the first and second years and pastured, and the third year it was in grain. Last spring it was liberally manured with horse manure, one-half ploughed down and the other half harrowed in and rolled, with bone and other fertilizers sown broadcast; it was then harrowed again and rows marked out 3½ feet apart. Then a compost that had been made of hog and hen manure, ashes, two bushels of salt and a barrel of plaster, was scattered along in the furrow, and the corn dropped about six inches apart and covered about two inches thick with a fork. The corn was planted on the 10th day of May, and owing to the ground being ploughed too wet and not harrowed until the sun had baked it into clods, it could not be made into that fine tilth so desirable for a quick growth, and in consequence of the drought, it came up badly and was replanted; this also failed to come up, and I then concluded to run a furrow between the others. In the furrows a sack of guano was scattered and the corn planted as in the first instance. It also came up badly, replanted until June, and then there were many places in the rows without a stalk of corn for a distance of several feet. The corn was harrowed over every few days with Thomas' smoothing harrow until about a foot high, then ploughed over twice with a single shovel plough, at an interval of about one week, and as it was very clean, it remained in that condition until matured. After the corn got fairly started the drought had little or no effect upon it. The corn was not thinned, it was very thick, and many remarked that it would fire. But owing to the deep ploughing, deep subsoiling, (the subsoil a clay bottom,) ample manure and fertilizers, the corn did not fire, but yielded, by very careful measurement both of ground and corn, twenty-four barrels and one-half bushel, and of fodder, part weighed in December when quite dry and the bundles counted and averaged, there was 9880 pounds. There was applied to 1¼ acres of land 500 lbs. of bone dust and about 1000 lbs. of bought fertilizers, from this part of the field the acre was selected. The corn is of the large yellow variety, very thick ear, deep grain, length of ears from six to twelve inches, and with the exception of about 1¼ barrels of the shortest that was fed to fattening hogs, can be seen at any time in my father's corn crib. It is a good lot of corn, filled out to the very end of the cob. Alongside of this acre, which was surveyed by John M. Wheeler, is another acre that was carefully measured, both land and corn, and yielded, without fertilizers, except a coating of horse manure plowed under, 17 barrels and 6 bushels. This acre was planted 3½ by 3 feet, and two stalks in a hill.

Mr. Murray's Statement.—The lot I had in cultivation for the prize acre of corn, was a timothy sod of 15 years standing. It was ploughed on the 18th of April, harrowed on the 23d, rolled on the 4th of May, dragged and harrowed on the 8th, and same day planted in rows 3 feet by 1. Sowed 300 pounds bone dust broadcast, and used 200 lbs. of Baugh's raw bone in the hill. The corn was then cultivated by dragging it three times nicely, and ploughing it three times, it being all I deemed necessary. It left the ground in good condition, and I was satisfied with my mode of cultivation.

The beet-sugar factory at Black Hawk, Sauk Co., Wis., began work on Nov. 6. The yield of sugar from the beets is said to be three-quarters of one per cent. better than last year. The *Pioneer* says the sugar is equal to the best ever made anywhere, but there is trouble from a lack of care in the cultivation of the beets. The California papers say that the establishment of beet-sugar factories in that State has reduced the price of sugar from one to one and a half cents per pound. The yield there is from eight to eight and a half per cent.

Seventy-five hundred pounds weight of Salmon eggs are on the way from Germany in charge of an expert, and consigned to Prof. Baird, of the Smithsonian Institution, United States Fish Commissioner.

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BALTIMORE, MD., FEBRUARY 1, 1875.

Our New Volume.

The crowded state of our pages this month, occasioned by the favors of our numerous and very able correspondents, together with our own extended notice of the many interesting matters which were presented at the Pa. Fruit Growers' Society's meeting last month, and our Monthly hints,—all of which are seasonable, and could not be delayed,—debars us from saying as much in regard to our own affairs, as we would wish to do. We must therefore be brief and general in rendering our heartfelt thanks to the host of friends who have been busy in securing new or re-enlisting old clubs of subscribers to the *Farmer*. In our whole course as publishers, at the commencement of a volume we have never had more flattering tokens of a successful career than what we have received during the past month. The prosperity which is attending our journal, may be estimated from the fact, that although our original intention was to present in each monthly number, **36** pages, yet the press of original matter and the large advertising custom we have received, from the most reliable business houses of the country, have forced us to extend the number of pages to **60,** including the cover, and the cry is now from our printer, "what shall *we* do?" with all the matter prepared and intended for this number—for we have enough on hand to duplicate the number of pages which are usually devoted to what the printers term "news."

In short, we heartily thank our friends for what they *have* thus far done, and for what they *promise* to do, for the extension of the circulation of the *Farmer*. We have nothing better to present in its behalf, as to its being worthy of their efforts, than the two first numbers of this volume already before the public; and the arrangements now entered into, render it only necessary to add, that there is no likelihood of any falling off in the future, on our part, if life is spared. We have secured the promise of the aid of some of the most able writers of the country, and we hope that each succeeding number will, if possible, be a richer one than its predecessor.

☞Our own advertisements, for the "*Farmer*," and our "*Agency*," we may be forced to omit in this number—and consequently we must refer to that for January for our plans; this remark is also applicable to

"OUR PREMIUMS,"

And all that we have promised in preceding numbers, upon this point, we wish to be considered in as full force, as though we had repeated it here.

ST. JOHN'S COLLEGE.—Gen. *Luther Giddings*, of A. A. Co., has been appointed Financial Agent for this venerable institution of learning. It is to be hoped that the *alma mater* of so many of the best of Maryland's sons will be liberally sustained by this effort of the Trustees to increase its revenues—and no gentleman more acceptable to the people of the State, we venture to say, could have been selected for the important trust than Gen. G. The duties of this new position will cause Gen. Giddings to visit the several counties of the State, and he will be enabled to gather in his travels many facts of interest to the agriculture of Maryland, which he will doubtless be inclined to incorporate into the series of papers, running through the present volume of the *American Farmer*, which he has most kindly promised to furnish us, under the *nom de plume* which he has assumed. The General wields a polished pen, is a practical man,

especially in matters pertaining to all branches of Horticulture, and we feel highly favored in having secured the promise of his kind aid in our labors for 1873.

Death of James Gowen, Esq.

It is with deep regret that we announce to our readers the decease of this distinguished agriculturist. The sad event took place at his residence at Mount Airy, near Philadelphia, on the 8th of January.

Mr. Gowen was in his 84th year. He was born and educated in Ireland, and possessed all the warmth of heart, courtesy of manner and enthusiasm of feeling which are the characteristics of her best sons. A warm lover of agriculture, he was for many years very active in the inception and furthering of schemes for its advancement. For a number of years he was the president of the Penna. Agl. Society, and at another period, if we mistake not, of the Phila. Society for Promoting Agriculture. A forcible writer upon topics pertaining to farm economy, he was a frequent contributor to the *American Farmer* and other agricultural journals of the day; and the honor largely belongs to him, we believe, of originating the project in this country of agricultural colleges, which should not only give our young men a liberal education, but also teach them those arts and sciences which affect their pursuit as farmers. His estate of Mount Airy was the model of a neat, well-ordered and productive farm, and many visitors were attracted thither by a desire to become acquainted with the details of his successful management. In the December issue of the Farmer some account of this farm will be found. An early and enthusiastic breeder of Short-Horn cattle, Mr. G. possessed some of the finest specimens of the milking strains of that noble race ever imported into this country.

The readers of this journal know something of the great interest which Mr. Gowen felt in the agriculture of the Southern States, and of the munificent generosity displayed by him in his efforts to contribute to the renewal of the agricultural prosperity of that section of the country. This interest never flagged. Up to the time of his decease, his love of agriculture and his desire for its improvement remained unchanged. Only a few days before his death we received from him a letter pressing upon our attention the importance of our urging upon Southern agriculturists the desirability of their improving their live stock and the necessity of their taking better care of it. He wrote: "Insist upon their paying more attention to profitable cattle—cattle that will fill the milk pail and the beef barrel. Keep harping on the raising of green crops, turnips," &c, and concluded his letter by saying, "excuse the length and dullness of this letter; it has taxed me considerably to write it, but the 'passion strong in death,' Agriculture, kept me to the task." In another letter, received a few days earlier, he wrote: "I would suggest your urging the expediency of *root culture*. Take the instance of what the turnip crop has done for Great Britain; refer to the Earl of Leicester's estate, on which, when it came into his hands 'there was but one blade of grass and two rabbits fighting for it.'" Here is shown how the great purpose for which he had so long worked still occupied his thoughts.

Aside from the character of Mr. Gowen as a prominent and influential public teacher in agriculture, the editors of this journal lose by his death a revered personal friend. For a long series of year he was firmly attached to our senior, and the friendship and confidence thus bestowed he was pleased to also manifest in various ways to the junior editor of the *Farmer*, and it is with unfeigned sorrow to them both that they are called upon to place upon record here their testimonial to his worth as a man, his usefulness as a guide, and his warmth as a friend.

☞ Several communications which we expected and promised in our last, for the Feb. No., have failed to reach us in time. We hope they will be received in time for our next. Just as we go to press we are in receipt of a valuable communication from Thos. Maddox, Esq., of Washington co., Md., on the subject of *Manure*, which will appear in our next.

MERINO SHEEP.—Mr. M. Templeton, whose advertisement of these animals will be found in another place, recently called upon us, having come to Maryland with a large shipment of sheep. He is endorsed as a reliable breeder and a man of responsibility by a number of prominent citizens and officials of his county, and the samples which he showed us of the wool from his sheep were very fine and beautiful.

Stock Farm of Mr. T. S. Cooper.

This gentleman, though quite a young man, has gone extensively into the breeding of fine stock of all kinds, and being recently in the vicinity of Coopersburg, Pa., where he resides, we stopped for an hour or two to see his Short-Horns, Cotswolds, Berkshires and Poultry, the raising of all of which engages his attention. We found that recent sales had considerably reduced his stock, but enough remained to show its character. The Short-Horns Mr. C. breeds are of the milking strains, and he has some very superior animals of this class in his stalls. His imported bull Prince Nicholas, is a substantial roan, 3 years old, which took all the prizes for which he could compete at the Va. State Fair in Nov. last, where Mr. Cooper was a large exhibitor. A young bull, about a year old, Duke of Lehigh, is a very shapely and promising animal. Dairy Maid, is a red cow, 9 years old, a magnificent milker, giving in good pasture, when in her flush, 33 quarts of milk a day, and making nearly 17 lbs. of butter a week, and she has been milked eleven months out of twelve.

Mr. Cooper keeps an extensive flock of Cotswold Sheep, his imported "Diamond Fleece" being a remarkably excellent ram, which has clipped 18 lbs. of wool. Some of the fattest sheep are on this place that we ever saw. Numerous fine Berkshires are also kept, as well as several varieties of Asiatic Fowls, including Buff and Partridge Cochins, Light and Dark Brahmas, besides Bronze Turkeys.

Mr. C. is selling largely of thoroughbred stock to the South, especially to Virginia, where he also has an interest in a large flock of fine Cotswolds, which he sent thither last year.

Fruit Drying.

Our readers know how often this subject has been considered in these pages, the great quantity of surplus fruits which are yearly lost from a want of facilities for marketing them whilst fresh, rendering it one of great importance to the fruit growers of the Southern States. In discussing the question we have referred to the Alden process, regreting the great cost of the apparatus, and now that we have had brought to our attention a machine which is not only portable but very low priced, we feel it a duty to make public such accounts of its effectiveness as have come to our knowledge.

The machine alluded to is *Ryder's Fruit Dryer*. We saw a model of this apparatus at a Horticultural Exhibition in Philadelphia, in October, and were much pleased with the specimens shown of the fruit prepared by it. But as its claims were urged only by the exhibitor, who was the agent of the patentee or manufacturer, and necessarily an interested advocate of its utility, we did not feel warranted in bringing it to the notice of our readers.

At the Convention of Fruit Growers, held at Reading, Pa. last month, some account of the proceedings of which are given elsewhere in this No., there was also shown a model of the invention named; and a member of the Society, who was stated to be a very extensive fruit grower, and who was evidently a gentleman of experience and intelligence, gave an account of the operations of the machine. Mr. Martin, the member in question, said he was in no manner, whatever, interested in Ryder's machine; that he had purchased one of the smaller size and found it answered a "first rate" purpose, and was so much pleased with it that he bought a larger one and had both in operation all of last fruit season. Of peaches, the smaller machine will dry as many as four expert hands can cut and put in; and two hands will dry from 4 to 6 bushels of fruit a day. The fruit may be either pared or cut. Corn dried by it is steamed for 10 or 15 minutes, then cut off the cob and put on the trays, from 2 to 3 bushels a day being thus prepared. He said the fruit is not only beautiful in appearance but preserves its natural flavor. One plan adopted with much satisfaction was to half dry the fruit, sprinkle it with sugar and pack it away, like figs. Fruit so prepared sold readily in all the markets. Mr. Martin commended the fruit prepared by the use of this machine as superior to that dried by the Alden process.

There were samples of the dried fruits shown at Reading, which were very handsome, as were also some which the agent of the manufacturer left with us some weeks ago.

This fruit drier consists of a series of trays moving on an inclined plane, hot air passing all around the trays and carrying off the moisture coming from the fruit. The heat is supplied by an ordinary 9 or 10 plate, or any

other stove, and the machine can be readily set up in any convenient position. There are several sizes made, the smallest costing $25, its capacity being claimed to be what fruit two persons can cut and pare. The other sizes cost more and do more work. In our next issue we may be able to give a cut of the machine and some further details of its operation.

Jersey Herd of Sam'l J. Sharpless, Esq., of Philadelphia.

We had the pleasure of spending an hour or two one day last month in looking at the fine animals composing the herd of Mr. Sharpless, who was one of the early breeders of this race in the U. S., and who has in his possession some of the choicest specimens anywhere to be seen of these popular ani-animals. His herd numbers, young and old, about forty head. There are two bulls now in use, Mogul and Red Knight; the former, a beautifully shaped, handsome animal, is about 3 years old, dark fawn and black, with neat head, thin limbs and a switch sweeping the ground, and possessing the black points which are valued as giving uniformity and beauty to the race; the latter is a dark solid fawn, 2 years old, with the softest hide and hair we ever felt on any specimen of the bovine race—equalling in fur-like softness the velvety touch of a mole. Niobe is a magnificent imported cow now in her 15th year, a splendid butter maker, producing 14 lbs. a week on pasture alone, and the mother of thirteen calves. The crowded condition of our paper forbids our naming at length a number of useful and handsome young cows which we very much admired, or a quartette of bull calves and a whole pen of heifer calves, such as we have rarely seen equalled anywhere.

The cows unfortunately were nearly all dry, the practice here being to have them come in from February to April—Mr. Sharpless not living on his farm in the winter—but their handsome shapes, yellow skins and mellow touch were good indications of their superior quality.

Mr. Sharpless has also a very fine flock of Southdown sheep, and breeds, besides, Berkshire swine and fowls in great variety. The limited time at our disposal did not allow of our viewing the poultry.

Mr. Sharpless, who is an ardent admirer of the Jerseys, thinks they are specially adapted for our Southern country, provided they are taken there before they mature, his experience being that unless they go South while young their acclimating is uncertain. He recommends that in warm climates there should always be shelter provided for Jerseys against the noon-tide heat, and that they be daily driven to it—as in this respect they seem to possess less instinct than our native cattle, continuing to graze in mid-day under our hottest suns.

Referring to the remark sometimes made that there are finer Jersey cattle now in this country than on the Island of Jersey itself, Mr. Sharpless said that he had no doubt of it, instancing the herd of Mr. J. Howard McHenry, of this State, which was, he thought, as fine a collection of cattle of that race as probably could be found in the world.

In the stables where the cows are kept there is the simplest arrangement of stanchions which we have ever seen. Instead of the complex arrangements often recommended and figured, the movable bar is kept in its place by a board flap which is secured by pieces of sole leather, these acting not only as hinges but as springs, so that the bar cannot get out of its place. The device is not only simple and ingenious, but is effective and cheap. Stanchions are used as being more convenient and safe than halters, and economical of space, and no accidents of any kind have ever occurred with them, whilst the cattle appear comfortable and contented.

Another feature we noticed with some satisfaction was an open summer milking house where the cows are milked morning and evening. This is a convenience and comfort both to the cows and the milk maids, as in cases of storms regularity in the milking can be thereby secured, which is not the case when it is done in the field. Each cow has her particular stall and knows it as well as the attendants.

Bound Volumes of the Farmer for 1872.

We have a very limited number of complete sets of our last volume neatly bound, which can be had at our office at $2 per volume, or which we will send, postage paid, by mail for $2.25.

☞ The Maryland State Agricultural Fair will be held this year October 7th to 10th.

Death of a Successful Inventor.

Mr. George Page, an eminent engineer and inventor of Baltimore—the original inventor and patentee of the circular saw mill—and one of the oldest residents of this city, died at the residence of his son, Mr. Geo F. Page, in Baltimore Co., January 4, 1873, at the age of 73 years. Mr. Page originally removed to this city from Keene, N. H. and was the founder of the well known firm of Geo. Paue & Co., founders and machinists, on N. Schroeder st., near Fayette, which was established about forty years ago, and continued as its senior partner until his retirement from active business pursuits a few years ago. He possessed great energy, and his ingenuity produced many machines, which he lived to see put into practical operation, and which have added very materially to the wealth not only of the State of Maryland, but of the entire country. Among the inventions of Mr. Page may be mentioned the morticing machine, tenoning machine, rotary planing machine, envelope machine (he having made the first of the latter machines used by the Government,) the endless chain or railway horse-power and the circular saw mill. The latter was his greatest achievement, and to its development and success the energies of his later business life were almost exclusively devoted.

Patents upon a number of other machines of minor importance to those named above, were from time to time granted to Mr. Page. His energy and perseverance were, however, severely tested at times in the introduction of his inventions, and there are probably many of the old school of mechanics yet residing in and about New York who remember Mr. Page and his morticing machine, and the very great indignation expressed by them on account of his endeavors to introduce a labor-saving machine which—as they said—would take the bread out of their own and their children's mouths!

For many years he resided in Washington, still maintaining, however, his connection with the Baltimore firm, during which time he engaged largely in building steamboats. The remains of the deceased were removed to Washington and buried in the Congressional burying ground.

THE FARMER.—We might fill pages with complimentary remarks of the Old Farmer, but as we have already intimated several times in preceding pages, we are so much pressed for space, that we are obliged to omit a great deal of matter prepared or intended for publication. We must, however, compromise by publishing the following kind letter from Dr. Jas. Smith, of Northumberland co. Va., under date of 20th Jan.:—

"It gives me unfeigned pleasure to aid as far as my time will allow, in the circulation of your time-honored journal, 'the American Farmer.' It should be in the hands of every intelligent farmer. It is the cheapest and most valuable journal published. I look forward each month with so much pleasure for a new copy—my pen is powerless to portray the eager delight it gives me in scanning its rich and punctual columns. I recommend it to all. It needs no eulogy from my pen, as it speaks fully for itself. I will gladly comply with your wishes in contributing to its columns whenever I can, but my time is so much employed each day, that I have only the night which I can indulge in reading or writing. Enclosed you will find another list of subscribers to your journal; I shall continue my efforts in its behalf, and let you hear from me again. With best wishes for your happiness, and unprecedented success this year to the Old Farmer, which it richly merits, I am, dear sirs, yours most respectfully."

A new Farmers' Club in Va.

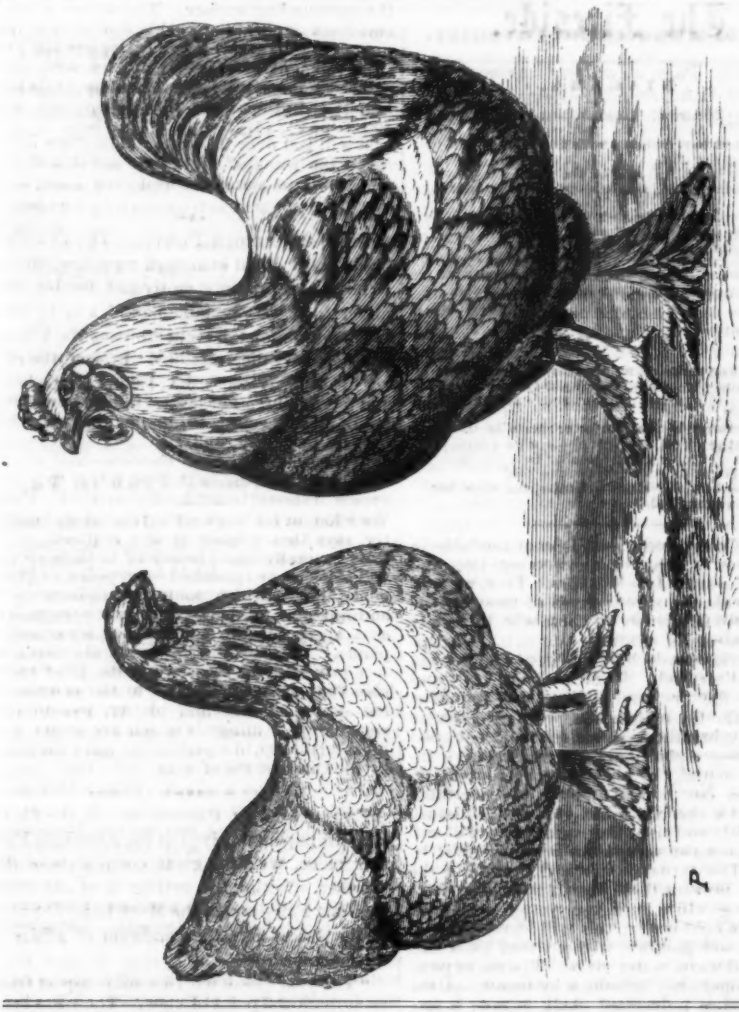
At "Eastwood," in Stafford Co., on the 30th Nov., there was a meeting of the Rappahannock farmers for the purpose of organizing a farmers' club. On motion, it was unanimously decided to be called "The Rappahannock Agricultural and Pomological Club of Stafford Co." A constitution and by-laws were submitted and adopted. After which, the following gentlemen were elected officers of the club: President, R. A. Gray; Vice-President, J. G. Pollock; Secretary, T. W. Franklin; Treasurer, A. Pollock. On motion of Mr. J. B. Gray, the club determined to meet on the first and second Fridays of Nov., Dec., Jan. and Feb., and once a month (Fridays) the remainder of the year.

The second meeting was held at Runford, when a committee was appointed to endeavor to obtain the White Oak Church as a place of meeting.

The next meeting took place at "Travelers' Rest," the first Friday in January. The question of debate, whether corn-fodder or orchard grass sown in the spring, is best for immediate use as feed, was ably discussed, and decided in favor of the former. The subject determined for debate at the next meeting was, "Which is the most economical and least laborious way to feed straw to cattle?" A motion was made and carried that a report of this and the preceding meeting be sent to the *American Farmer*, Southern Planter and Country Gentleman, and Mr. J. B. Gray was requested to draw up a condensed form for that purpose. The Secretary was ordered to report the proceedings of every meeting to the Fredericksburg papers, and to communicate with the Agricultural Bureau at Washington and receive all seeds and agricultural matter sent by them.

A. POLLOCK, *Act'g Secretary.*

☞ Notice our advertisement of grass seeds.



IMPORTED DARK BRAHMAS,
(Drawn from life by John R. Page.)
The property of T. S. Cooper, Coopersburg, Lehigh county, Pennsylvania.

Green Food for Fowls in Winter

Fowls allowed their liberty will, during warm weather, help themselves to the right kinds and the right amount of green food. But, during cold, freezing weather, or in summer, if the flock is not allowed range, the want must be artificially supplied. It is necessary for other reasons than simply as an additional amount of sustenance, for its value in this direction is probably slight; at least, this can be said of some of the articles eaten. Nature demands a certain proportion of fresh vegetables in a perfect diet, otherwise the health fails, no matter how scientific or how liberal is the apportionment of other articles. In some cases, a certain amount of green food is necessary to keep the bowels open; failing in which, the flock deteriorates and becomes much more liable to destructive epidemics. In passing, we may remark that there is probably a kind of irritation of the bowels by the large amount of residue coming from green food, tending to keep them open; such is the explanation offered by physicians. The avidity with which fowls pounce upon green food in winter shows their need for it.—*Poultry World.*

☞In forwarding your renewal try to send a club for the Farmer.

The Fireside.

NIAGARA.

Niagara! How profound
The gulf! And how the giant element,
From rock to rock leaps with delirious bound,
Crushing the cliffs!
Horribly beautiful! and on the verge,
From side to side, beneath the glittering morn,
An Iris sits, amid the infernal surge.
Like Hope upon a death-b d; and, unworn,
It steady dies, while all around is torn
By the distracted waters, bears serene
Its brilliant hues with all their beams unshorn:
Resembling, 'mid the torture of the scene,
Love watching Madness with unaltered mien.

Unknown.

NATURE.

"To sit on rocks, to mourn o'er flood and fell,
To slowly trace the forest's shady scene.
Where things that own not man's dominion dwell,
And mortal foot hath ne'er or rarely been,
With the wild flocks that never n-ed a fold.
Alone o'er steeps, and foaming falls to lean.
This is not solitude! 'tis but to hold
Converse with Nature's charms, and view her stores unrolled."

THE COMPLEXION.—It is commendable in every one to preserve their complexion and to use the art nature supplies. True, we cannot prevent the sure impress of time, but its marks will fall lightly on those who, by proper means, meet its stealthy approach. On this subject, thousands hold different opinions of the right method. Sound health of body and mind is the first and indisputable requisite. To obtain these blessings, we must exercise our body, breathe fresh air, eat plain but good food, sleep eight hours, avoid excessive industry, mentally or physically, be content, do whatever our hands find to do cheerfully. Without a cheerful mind, gloom will disturb the health, and then the complexion will suffer. The most scrupulous neatness must be used. The throat is often darker than the face; to prevent these brown spots, use extra scrubbing. In winter, use wetted corn-meal mixed in cold water; this will leave the complexion soft and fair, without that gloss that soap and warm water gives. The use of powder is considered injurious by many, but the use of pure pulverized chalk is not; it protects the complexion from the sun in summer. The use of cold water excites the blood to the surface and gives that smoothness so desirable. The young in their bloom often realize too late that the rose blooms but to die. To those past youth, guard with a jealous care your complexion.

E. R.

PERMANENT FLOWER BEDS.—To save time and labor of reshaping flower beds every spring—when made in the sod—lay off the form you wish them, take off the surface to the depth of 18 inches, cut the side straight down, set large, long-shaped stones edgewise around, even and upright, supporting each other firmly, preserving the same height above the surrounding surface, The stones should stand six inches above, this will prevent the grass growing into the bed. Replace the sod to the heignt of one foot, fill up with rich soil and compost, raising the centre 18 inches higher than the edge. Dressed up, and rich soil added every spring, you have a bed that will last over 20 years. The stone sides keeps the roots of the plants moist, and enable them to stand the heat und drought of summer.

E. R.

THE LEGUMINOUS PLANTS.—The Pea vine has ever been held in as high repute, wherever it has been properly cultivated, for turning under to make vegetable mould, and to provide manure for the grain crops, as the Clover has been in other sections. In fact, the clovers, sainfoin, vetches, &c., belong to the bean and pea family. The largest mineral constituent of all these crops is lime, and they flourish best on lime soils, and are most successfully cultivated in limestone districts—and where lime does not exist in the soil where they are grown, it should be artificially supplied. Prof. Voelcker, in his work on agricultural chemistry, says that sulphur is also requisite, or at least generally found beneficial to these crops, and this can be furnished by gypsum, or plaster of Paris, which contains sulphuric acid and lime, and on this account may be regarded as a special manure for all the leguminous plants. We thus find how admirably has Nature provided for these crops, the most valuable that are grown, next to the cereals, in the supply of lime and plaster, two of the very cheapest minerals which are found useful as fertilizers, to replenish the soil exhausted by the carelessness of man.

ENGLISH FARM PROSPECTS.—In the file of English papers received at the American Farmer office, we find great complaints of the weather, affecting the getting in of the grain crop last Fall—and in the Mark Lane Express, of the 1st of Jan. the condition of affairs is thus summed up:—

"The year closes with a sombre aspect from an agricultural point of view. There has been no war, commercial prosperity has gone hand-in-hand with peace, but the elements themselves have been at war with our orchards, our standing corn, and the very soil itself, and we cannot tell the extent of the evil. The seed of our last crop went into the ground under favourable circumstances, it came up well, and was not deficient in breadth, but the year has ended in great and almost general disappointment. The wheat harvest in Scotland was almost a blank, and that in England a very short and poor one. There has been little sowing time from the extensive rains. The yield is too various for computation, but the deficiency must be great, and tell as the season advances."

DOMESTIC RECIPES.

FRENCH ROLLS.—One pint milk, one teacup yeast, and flour enough to make a stiff sponge; let it stand 3 or 4 hours to rise, then add ½ lb. butter and two eggs; knead in as much flour as necessary to roll; let it again stand 3 hours to rise; when light, roll out and cut the rolls a half inch thick, placing two together to make them open nicely; let them stand a couple of hours in the pan and then bake them a light brown.

VELVET PUDDING.—Two quarts of milk, 6 tablespoons of corn starch, yolks of 5 eggs, 1 cup of sugar, flavoring to taste. Dissolve the corn starch in one quart of the milk, beat the yolks of the eggs with the other quart, then add the sugar and boil all until thick; then pour into a pudding dish. Beat the whites of the eggs with a little sugar, and put on the top and brown in the oven a few minutes.

SILVER CAKE.—Whites of 8 eggs, 2 cups of sugar, one-half cup of butter, one-half cup of milk, two and one-half cups flour, one-half teaspoon soda, one teaspoon cream of tartar.

GOLD CAKE.—Yolks of 8 eggs, one and one-half cup of sugar, one half cup of butter, one-half cup of milk, two cups flour, one-half teaspoon soda, one teaspoon cream of tartar.

OYSTER FRITTERS.—Take good sized oysters, make a thick batter with four eggs and a tablespoonful of milk, dip each oyster into the batter and then into grated bread and fry them a nice color.

YORKSHIRE PUDDING.—Put 7 tablespoonsful of flour into a dish with a little salt and enough milk to make it into a stiff, smooth batter, then add a pint of milk and 3 eggs well beaten. Beat all well together and pour out into a shallow tin which has been previously rubbed with butter. Bake it for an hour, then place it under your roasting beef to catch the gravy that flows from it; cut the pudding into small square pieces and serve them on a hot folded napkin with your roast beef.

IRISH STEW.—Take about two and a half pounds of loin mutton chops, put them in a stew pan alternating layers of sliced potatoes and layers of chop, and four small onions. Pour on nearly a quart of cold water, cover the stew pan closely and let it stew gently until the potatoes are ready to mash and the greater part of the gravy is absorbed, then place it in a dish and serve up very hot.

Baltimore Markets, Jan. 23.

Breadstuffs—Flour.—Howard St. Super. $5.50a6.75; do. common to fair Extra, $7a7.50; do. good to choice do., $7.75a8.25; do. Family, $8.50a11; Ohio and Indiana Super, $5.50a6.50; do. common to fair Extra, $6.75a7.50; do. good to choice do., $7.75a8; do. Family, $8.25a10.50; City Mills Super. $5.50a6 50; do. low to medium Extra, $7.50a9; do. Rio brands do., $10a 10.50; City fancy brands, $11.50a12 50. Fine Flour, $4 50a5.25. Rye Flour, $5a5 75. Corn Meal, $3a3 25.

Wheat.—Market firm but quiet. Choice Southern white, 230 cts.; good Southern red to amber, 210a225 cts.

Corn.—Market for Southern white firm, for yellow and for Western dull. We quote Southern white 65 to 66 cts.

Oats.—Quiet. Choice White Western, 52 cts.; Southern, 48 a50 cts.

Rye.—Dull. We quote prime at 85a100 cts.

Cotton.—Firm and in good demand. We quote ordinary, 18¼a17¼ cts; good ordinary, 18¼a18¼ cts.; low middling, 19¼ cts.; middling, 20¼ cts.

Broom Corn.—6¼a7 cts. for prime; 4a6 cts. for common to medium.

Hay and Straw.—New York Timothy, $33; Western $28a32; Penna., $31a35 per ton. Rye straw, $27a 30 per ton.

Live Stock—Beef Cattle not very active, and offerings generally a little inferior. We quote best on sale 6a7¼ cts.; generally rated first-class, 4¾a6 cts.; fair quality, 3¾a4¼ cts.; thin steers, oxen and cows, 3a 3¾ cts.

Hogs.—Market advancing. We quote them at 6a6¼ cts. for good ones, and lower grades at 5¾a5¾ cts., net.

Sheep.—Prices lower, receipts large. Fair to good, 4¾a6 cts.; good to extra, 6a7¾ cts., gross.

Mill Feed.—City Mills Brownstuffs, 25a26 cts.; middlings, 28a30 cts. for light; 45a55 cts. for heavy.

Molasses.—New Orleans, 70a75 cts.; Demarara, 38a 42 cts. *Syrups.*—Calvert, 55a60 cts.; Maryland, 48a 55 cts.; Canton Sugar-House, 50 cts. in hhds. and 23 cts. in bbls.

Onions.—Scarce. Red, $3.50, and White $4 per bbl.

Provisions.—Bu'k Shoulders, 5 cts; Rib Sides, 6¼ cts.; clear rib Sides, 7 cts.; Bacon, Shoulders, 6¼ cts.; Rib Sides, 7¾ cts.; Clear Rib Sides, 8a8¼ cts.; Hams, 15a16 cts.; Mess Pork, $14. Lard, 8¼a9 cts.

Rice.—Carolina, 9 cts.; Rangoon, 7 cts.

Salt.—Ground Alum, $1.50; Fine, $2.50 per sack; Turk's Island, 40 cts. per bushel.

Seeds.—Clover, $6.40a6.50; Timothy, $3.50a3 62; Orchard Grass, $2.50; Kentucky Blue Grass, $2.75; Flaxseed, $2.

Tobacco.—Demand for Maryland and Virginia active, and receipts of latter light. No material change in prices.

Whiskey.—Western, 93 cents.

Wool.—Receipts light, market steady. Unwashed, burry, 25a30 cts.; good unwashed, 35a40 cts; good tub washed, 55a65 cts.; inferior do., 50a55 cts.; common fleece, washed, 50a53 cts.; medium to fair do., 54a58 cts.; pulled, 45a55 cts.

Potatoes.—Market well supplied, Maine "Sackson's," $1 a bushel on the wharf.

NEW ADVERTISEMENTS.

I was the first to introduce to the public the Hubbard Squash, American Turban Squash, Marblehead Mammoth Cabbage, Mexican Sweet Corn, Phinney's Water-melon, and many other

New and Valuable Vegetables.

This season I have a new and exceedingly valuable squash, new varieties of corn, three fine melons, and other choice new vegetables for my customers.

My business is to supply, what every good farmer is anxious to get, the *very best of* vegetable seed. I grow a hundred and fifty kinds on my four seed farms, right under my own eye, *making new vegetables a specialty* besides importing their choicest varieties from European growers. A fine selection of flower seed, home-grown and imported, will also be found in my Catalogue, which will be sent *free* to all applicants

As stated in my Catalogue, all my seed is sold under three warrants. 1st: *That all money sent shall reach me.* 2d: *That all seed ordered shall reach the purchaser.* 3d: *That my seeds shall be fresh and true to name.*

JAMES J. H. GREGORY,
jan2-4 Marblehead, Mass.

Seeds at Wholesale.

OUR ANNUAL

TRADE LIST OF SEEDS,

in all the various departments, is now ready for mailing to Dealers only.

J. M. THORBURN & CO.,
jan-2t 15 John st., New York.

AGENTS, HERE'S A CHANCE!

We want a SMART, RELIABLE Agent in every CITY, TOWN and VILLAGE, to take charge of permanent Agencies for our Paper, THE AMERICAN LAND AND LAW ADVISOR (published weekly). By our NEW PLAN you can have a

STEADY ANNUAL INCOME!

Experienced Canvassers preferred. Do not fail to send us your address. CROFT & PHILLIPS, Publishers, Pittsburgh, Pa.
jan 3t

J. M. THORBURN & CO'S

Descriptive Annual Catalogue

OF

Vegetable, Agricultural and Tree Seeds

for 1873, is now ready for mailing to applicants.

J. M. THORBURN & CO.,
jan-2t 15 John st., New York.

Two Valuable Books.

"The Jersey, Alderney and Guernsey Cow: Their History and Management." By W. P. Hazard Beautifully bound and handsomely illustrated. Price $1.50.

"The Management of the Dairy." A small volume full of interest for all who keep a dairy or a single cow. By C. F. Raddatz. Price 35 cents. Either of the above will be sent free by mail on receipt of price by

SAML. SANDS & SON,
Publishers American Farmer, Baltimore, Md.

IMPORTANT.

Paint! Paint! Paint!

THE

AVERILL CHEMICAL PAINT!

Which, for DURABILITY, BEAUTY and ECONOMY, is unsurpassed by any other PAINT MANUFACTURED, and is already mixed for use, of all the different shades of color to suit the taste, and is equally good for wood, stone or iron, and will not crack nor chalk off by friction, and will preserve its color twice as long as the best Lead Paint. It is sold only by the gallon, and one gallon will cover twenty square yards of smooth surface.

☞ Send for Circulars.

R. & W. H. CATHCART,

SOLE AGENTS,

113 Thames Street,

sept-6t **BALTIMORE, Md.**

TO FARMERS and MARKETMEN.

You want none but the very best of seed, grown from carefully selected seed stock. With the money you have to invest in manure, help and glass, *you know you cannot afford to use any other;* you feel very anxious about it: TRY MINE. Catalogues free to all. N. B.—Call in the Spring, and see what onions, cabbages, &c., I set out to grow seed from.

jan 2t JAMES J. H. GREGORY, Marblehead, Mass.

WANTED.—A suitable person—a young unmarried man preferred—to take charge of a Dairy farm near Norfolk, Va. He must be experienced in the business, and possess a small amount of capital to invest; only enough is requisite to interest him in the results. A very advantageous arrangement will be made with the right kind of man. Address the Editors of *The American Farmer.* jan-1t

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100,000 Asparagus Roots.

CONOVER'S COLOSSAL,
LISHER'S MAMMOTH, and the
GIANT.

Two and three years old.

For sale by A. W. SWEENY,
oct-5t P. O. Address box 858, Baltimore.

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For Sale.

A Set of No. 1 and No. 2 BAUGH'S PATENT SECTIONAL BONE MILLS, but little used, with Counter Shafting, Belting, Sifter and Elevator, with Cast-Iron Buckets, for sale low. Apply at this Office. sep-tf

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New Iceland Refrigerator.

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FORWARDED AND PACKED

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Importers of CHINA, GLASS, TABLE CUTLERY, FAMILY HARDWARE, PLATED GOODS, and Dealers in TIN, WOODEN and JAPANNED WARE and KITCHEN FURNITURE of every character.

WATER COOLERS of our own make. ICE-CREAM FREEZERS of the most approved kinds. PATENT ICE PITCHERS, all qualities, and each warranted to be as represented.

New and Beautiful Patterns of

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WHISKEY, BRANDY AND WINE DECANTERS,

SINGLY AND IN SETTS.

BOWLS, DISHES, CELERY STANDS, &c.

Our arrangements made in person with the leading manufacturers in Europe and this country, and having resident agents in France and England, give us every advantage in obtaining our supplies; manufacturing the common class of goods, such as

TIN AND JAPANNED WARE;

Buying entirely for cash; with a thorough knowledge of the business in all its details; purchasers may rest assured that we can and will supply their wants as favorably and upon as good terms as any house in New York or elsewhere.

We respectfully solicit a visit and an examination of goods and prices. ap-1y

BURNS & SLOAN,

No. 132 LIGHT STREET WHARF,

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BUILDING LUMBER, SHINGLES,

ASH, OAK and WALNUT.

LIME, BRICKS, SASH & MILL WORK.

oct-12t

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STRICTLY PURE GROUND BONE,

Muriate Potash, Sulphate Potash, German Potash Salts, Nitrate Soda, Salt Cake, Nitre Cake, Sulphate Soda, Sulphate of Ammonia, &c.

OIL VITRIOL & CHEMICALS FOR MAKING

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IMPORTANT TO FARMERS.

J. G. HEWES'

Ammoniated Bone Super-Phosphate of Lime,

Manufactured and Sold by JOHN G. HEWES,

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dec-6t **Also, PERUVIAN GUANO.**

JOHN B. RUSSELL,

Manufacturer's Agent for the sale of

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Ground Bone, Bone Meal,

Dissolved Bone and Bone Flour,

IN BARRELS OR BAGS. FOR SALE WHOLESALE OR RETAIL.

JOHN B. RUSSELL,

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German Potash Salts,

Imported directly from the mines, high and low tests.

Orders of Manufacturers promptly executed in deliveries to suit.

STOCK ON HAND FOR SALE VERY CHEAP.

Muriate of Potash, Kainit, &c.

Please call for circulars. **TATE, MÜLLER & CO.**

BONE ASH, imported from South America, GROUND BONE and GUANO, for sale.

TATE, MÜLLER & CO.

oct-1y ***52 S. Gay St., Baltimore, Md.***

With the recommencement of our connection with our old journals, we determined also to renew our **AGENCY** for the supply of **everything** required by Farmers and Planters residing at a distance from Baltimore, who may not have Commission Merchants or Factors in this city.

Our long experience, and, we flatter ourselves, our judgment and discretion, in this business, will enable us to render good service to those who may wish to obtain our aid

We will purchase and have carefully shipped, by whatever mode of transportation may be designated:

FERTILIZERS of every description sold in this market—and there is, probably, no other city in the Union which offers better facilities for this purpose. We will buy, and deliver from the Peruvian Agent's Warehouses, whenever the order is sufficiently large to warrant it,

PERUVIAN GUANO,

Of the Chincha Island and Guanape brands; the various **PHOSPHATIC GUANOS** imported into this port; **BONE DUST** from the best manufacturers of this vicinity, or the cheaper kinds from a distance, as may be ordered by the purchaser;

Land Plaster, Oil Vitriol, and all Chemicals Required

In the manufacture of **HOME MANURES** or **SUPERPHOSPHATES,** from the most reliable factories.

FRUIT and **ORNAMENTAL TREES, SHRUBBERY,** Field, Garden and Flower **SEEDS.**

All kinds of **AGRICULTURAL IMPLEMENTS** and **MACHINERY** at manufacturers' prices. Likewise,

Cattle, Horses, Sheep, Pigs, Poultry, &c.,

Of the improved breeds. In this vicinity, in some particular kinds of stock, a better selection can be made than elsewhere, and special attention will be given to buying and forwarding such animals as may be ordered.

LAND SALES.

As a great demand is expected ere long to be made for Landed Estates in the Middle and Southern States, we have opened a correspondence with men of established reputation engaged in the Real Estate Agency, in this State, Virginia and the Carolinas, and copies of pamphlets containing a list of the Farms, location, price, and other particulars, will be kept for the inspection of those wishing to purchase; and we will, with great pleasure, render every facility in furthering the objects of both buyer and seller. To those wishing to advertise in our journal, we will give our aid without any fee further than the cost of the advertisement.

We will at all times be happy to receive, at the sign of the "Golden Plow," our old farmer friends, on visiting the city, whether or not they may have any special business, and will be prepared, with cheerfulness, to give them any aid or advice in our power, without any consideration therefor except the consciousness of being able to render them a service.

OUR TERMS.

As we expect to carry on this portion of our business strictly as an **AGENCY,** we must in all cases require the **CASH** (or its equivalent) in hand to make purchases. The small commissions we may require—and these will, in most cases, be paid by manufacturers, breeders or dealers—will not justify our transacting the business on any other terms. Address

SAML. SANDS & SON,

No. 9 North st., near Baltimore st., Baltimore, Md.,

SIGN OF THE GOLDEN PLOW.